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ENERGY AND WATER DEVELOPMENT APPROPRIATIONS FOR FISCAL YEAR 1987

HEARINGS

BEFORE A

SUBCOMMITTEE OF THE

COMMITTEE ON APPROPRIATIONS

UNITED STATES SENATE

NINETY-NINTH CONGRESS

SECOND SESSION

ON

H.R. 5162

AN ACT MAKING APPROPRIATIONS FOR ENERGY AND WATER DEVELOPMENT FOR THE FISCAL YEAR ENDING SEPTEMBER 30, 1987, AND FOR OTHER PURPOSES

PART 3 (Pages 1377-2634)

NONDEPARTMENTAL WITNESSES

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ENERGY AND WATER DEVELOPMENT APPROPRIATIONS FOR FISCAL YEAR 1987

MONDAY, APRIL 14, 1986

U.S. SENATE,
SUBCOMMITTEE OF THE COMMITTEE ON APPROPRIATIONS,
Washington, DC.

The subcommittee met at 10 a.m. in room SD–192, Dirksen Senate Office Building, Hon. Thad Cochran presiding.

Present: Senators Cochran, Mattingly, and Johnston; also present: Senators Dole, Bentsen, and Denton.

NONDEPARTMENTAL WITNESSES

Senator COCHRAN. The subcommittee will please come to order.

This morning, the Energy and Water Development Subcommittee continues its hearings on the budget for the next fiscal year. This morning, we have public witnesses scheduled to testify and are very happy and honored to have the majority leader, Robert Dole; the Senator from Kansas, here today to be our leadoff witness and to introduce some of those who are testifying before the subcommittee today.

Senator Dole, you may proceed.

KANSAS WATER RESOURCE PROJECTS

STATEMENT OF HON. ROBERT J. DOLE, U.S. SENATOR FROM KANSAS

Senator DOLE. Thank you, Mr. Chairman.

Mr. Chairman, first of all, I want to thank not only the chairman, but the members of this committee. I know this is long, arduous work. I haven't had the opportunity to visit many times, to hear the testimony given today, and probably many other days, and I certainly appreciate your cooperation today, Senator Cochran.

INTRODUCTION OF WITNESS

It is my pleasure to introduce Jim Foster of Witchita, KS, a long time acquaintance. Mr. Foster is the business manager for the Boeing Co. and is now chairman of the five-State committee, the Arkansas River Basin Interstate Committee, and is speaking today on behalf of Arkansas, Colorado, Kansas, Missouri, and Oklahoma.

In his testimony today, Mr. Foster will discuss.projects located within the Arkansas River basin, specifically addressed to projects of great importance to the State of Kansas; namely, the Great Bend flood control project and the Halstead project. Both these projects are contained within the President's fiscal 1987 budget and have been on the books for years. The President has recommended that $2.6 million be approved for the Great Bend flood control project and $1.1 million be approved for Halstead.

Mr. Chairman, I know the witnesses will go into more detail, but I am here now to introduce the witnesses who support these projects and others that will be testifying with reference to, and he will give you the details on all of these projects. Again, I appreciate the chance to be here and to recognize not only Mr. Foster, but others in this group who will be testifying this morning.

Thank you.

Senator COCHRAN. Thank you very much, Senator Dole.

We appreciate your being here and presenting these important witnesses to the subcommittee. We will be hearing from them later on, and we will certainly carefully review the testimony that they will make to the subcommittee. Because Senator Bentsen is involved, as you are, in the markup of the tax bill in the Finance Committee, I think we will now proceed to hear from Senator Bentsen, who has witnesses and projects in which he is interested.

TEXAS WATER RESOURCE DEVELOPMENT PROJECTS

STATEMENT OF HON. LLOYD M. BENTSEN, U.S. SENATOR FROM TEXAS

We welcome the distinguished Senator from Texas. We know of your interest in the projects that affect the State of Texas. We are glad to have the benefit of your presence this morning, Senator. Welcome to the committee. You may proceed in any manner you wish.

Senator BENTSEN. Thank you very much, Mr. Chairman.

I am certainly pleased to be before this Subcommittee on Energy and Water Development to testify on Bureau of Reclamation and Corps of Engineers projects in the State of Texas.

Those two agencies, of course, have contributed a great deal to the economic well-being of the State which I have the honor of representing. I am pleased to note that the fiscal year 1987 budget request for the Corps of Engineers is substantially more than that requested for the current fiscal year.

MOVE TOWARD INCREASED COST SHARING

I think that statement requires an explanation in this day of budget squeezes and trying to cut back on the deficit. I think the two things are compatible, because we are talking about a change in philosophy on the part of the Congress and the administration in authorizing these projects.

We are talking about changes in cost-sharing formulas which were contained in our bill, S. 1567, the Water Resources Development Act, which passed the Senate only a few weeks ago.

Now, that is the first major water resource authorizing legislation passed by both bodies of the Congress since 1976, over 9 years, and it mandates an expanded role for project beneficiaries in planning, construction, and maintenance of water projects.

I believe this is something that is absolutely necessary for the future of our country. One of the things that has taken place in past years is projects being approved in the middle of the night when Members are not on the floor trying to show who had the most muscle in trying to accomplish a goal or, in many cases, an imprudent bill.

I really think the best judge of the worthiness and the need of a project are the folks back home who live with it, and now, in this instance, are going to have to make a substantial contribution to it.

If the Federal Government pays for the entire project, then everybody supports it. But if local interests are required to be involved and pay for part of it, then they do that kind of an evaluation.

Mr. Chairman, I, to my knowledge, have never supported a project from the State of Texas that didn't have a positive benefit-cost ratio, and I think that is terribly important if the taxpayers of this country are going to get their dollar's worth of tax money that is spent up here.

FUNDING REQUEST

I strongly support this committee's approval of funding for all of the Texas projects that are included in the President's budget. Every one of them, to the best of my knowledge, has a positive cost-benefit ratio. I intend to file a substantially longer statement for the hearing record in which I will comment on a number of projects. Also, I ask unanimous consent that the full statements of a distinguished number of my constituents who are here today be taken into the record in their entirety.

Senator COCHRAN. Without objection, your statement and those which you have submitted will be included in the record in their entirety.

COOPER LAKE, TX

Senator BENTSEN. Mr. Chairman, I request additional funding on only one project, and that is the Cooper Lake project in northeast Texas. Construction is finally underway after extensive delays caused by court injunction. The project is 18-percent complete. An amount of $3.7 million has been requested for the coming fiscal year, but the Fort Worth District has expressed the capability for an additional $3.1 million, indicating that such increased funding would expedite completion of the project by 12 to 18 months. I, therefore, strongly urge the subcommittee to increase the fiscal year 1987 allotment for the Cooper Lake project from $3.7 to $6.8 million.

In recent years, Mr. Chairman, I have not asked for additional funding for Texas projects, but this project is badly needed to supply flood protection in the south Sulphur River area as well as water supply to much of northeast Texas.

INTRODUCTION OF TEXAS WITNESSES

Mr. Chairman, we have here many of the distinguished members of the Trinity River Improvement Association. Representatives of the Gulf Intercoastal Canal Association, the Port of Corpus Christi, and the Red River Authority will be appearing later in the course of these hearings.

These are people who have spent their lives working on water resource development. I had some of them in my office the other day. I was recalling that it was about 35 years ago when I first met with them on some of these projects. So they have been totally committed and they have worked at it on a day-to-day basis. The vast majority are strictly pro bono, no type of compensation except their own satisfaction that they are doing something for their community, their region, and their State that they believe will improve the lot of all of our people.

So while I am submitting a more detailed statement for the hearing record, I hope that this committee will listen carefully to the Texas witnesses that will be testifying on projects that are so important to our State.

Thank you, Mr. Chairman.

Senator COCHRAN. Thank you, Senator Bentsen.

We appreciate having the benefit of your counsel and your statement this morning.

Senator BENTSEN. Mr. Chairman, I would say that this committee and the committee I am going back to work on, the Finance Committee, are the two most important committees in the U.S. Senate. As was once stated by the late Senator Bob Kerr, Appropriations and Finance are the taking and the giving committees, and you are the giving committee, and I am going back to the taking committee. [Laughter.]

PREPARED STATEMENTS

Senator COCHRAN. We wish you well. We know you have a lot of things to work on this morning. Thanks for coming over and being one of our first witnesses.

[The statements follow:]

STATEMENT OF SENATOR BENTSEN

I am pleased to submit my recommendations to the Subcommittee on Energy and Water Development on Texas Corps of Engineers and Bureau of Reclamation projects recommended by the President for funding in the Fiscal Year 1987 budget request.

I note that the overall funding request for the civil works program of the Army Corps of Engineers is substantially increased over the amounts requested in Fiscal Year 1986. This increase is reflective of the Administration's strong support of the new cost-sharing formulas contained in S. 1567, the Water Resources Development Act which passed the Senate only a few weeks ago. The expanded role of project beneficiaries in the planning, construction, and maintenance of water projects has been anticipated by the Administration, which has been working to obtain commitments from project sponsors in advance of project construction. This has led to the inclusion in the FY 1987 budget of funds for 19 new construction starts. Such inclusion is an excellent indication of the Administration's belief that water resources projects will continue to be essential to the economic viability of this nation. I am pleased to have played an active role in the development of these new cost-sharing policies, through my position as ranking minority member on the Committee on Environment and Public Works and as a member of the Finance Committee.

As far as the State of Texas is concerned, the President's FY 1987 budget request contains funding for one preauthorization study, advanced engineering and design for two projects, construction funding for 15 projects, dam safety work on one project, and continued operation and maintenance of a dozen channel and harbor facilities. I strongly support this subcommittee's approval of funding for all the Texas projects included in the budget, but I do want to comment on several of them individually.

New Starts:

Lake Wichita Dam and Holliday Creek, a flood protection project designed to protect Wichita Falls, was included as a new start in the FY 1986 budget request, contingent on enactment of authorizing language in S. 1567. Because that legislation has not yet become law, those funds were not appropriated. Funding for initiation of construction has been included in the budget before you, again contingent upon enactment of the water resources authorizing measure now awaiting conference. I wish to note that project sponsors have agreed to contribute 35 percent of project costs.

Also listed as a new construction start in last year's budget was the Clear Creek project, which will provide flood protection for residential and commercial areas southeast of Houston. This project was also delayed because the authorizing legislation was not enacted. $8.2 million is included in the package now before this committee.

Ongoing Construction:

Two separate elements of the Freeport Harbor project were included as a new start in last year's appropriation request, and did receive funding. The FY 1987 budget contains an additional $9.9 million for continuation of construction. Rehabilitation and relocation of existing jetties and enlargement of the turning basins are essential to the safe operation of this port, and I strongly endorse inclusion of these funds in the budget. Here again, project sponsors have agreed to contribute half the total estimated cost of this project.

There are a number of other projects for which continued construction funds have been requested. Construction at Cooper Lake, in northeast Texas, is finally under way after extensive delays caused by court injunction. The project is 18 percent complete; $3.7 million has been requested for the coming fiscal year. The Ft. Worth District has expressed a capability for an additional $3.1 million, indicating that such increased funding would expedite completion of the project by 12-18 months. I therefore strongly urge the subcommittee to increase the FY 1987 allotment for the Cooper Lake project from $3.7 million to $6.8 million. This project is badly needed to supply flood protection in the South Sulphur River area as well as water supply to much of northeast Texas.

Joe Pool Lake is 77 percent complete and $9.7 million is requested. Under construction since early 1975, this project will provide flood protection, water supply, and recreation in the Dallas area.

Another necessary component of the Trinity River Basin plan is the Ray Roberts Lake in Denton County. The FY 1987 funding request of $34 million is the largest single component in the Corps budget for Texas projects. This project, which is just over 50 percent complete, will provide 74.3 million gallons of water per day for municipal and industrial water supply, and 6 million user days annually of recreation, again in the Dallas area.

I note that the President's budget contains $4.7 million for continued construction of the Mouth of the Colorado River project in Matagorda County. I wish to point out that the authorizing legislation now awaiting conference makes it clear that the diversion feature of this project, which provides nationwide fish and wildlife benefits, is to be constructed at full Federal expense. S. 1567 also provides that the diversion channel and the navigation channel are to be constructed concurrently. It is my understanding that the money requested for the coming fiscal year will be used for both these project elements.

I am pleased to note the continued progress of construction of the San Antonio channel improvement. Now 80 percent complete, the FY 1987 budget request contains $11.6 million for this project, which will provide a high degree of flood protection to the metropolitan area of San Antonio.

The President's budget contains funding for continued construction of a number of other Texas projects. I support all these, but I did want to highlight those mentioned above.

Wallisville Lake:

I wish to bring to the subcommittee's attention once again the situation with regard to the Wallisville Lake project. This is a saltwater barrier, recreation and water supply project located at the mouth of the Trinity River in Chambers and Liberty Counties. Construction of this project was halted in 1973 for environmental reasons; it has been in court ever since. Just a few weeks ago the Federal District Court in Houston ruled that Congress was in violation of NEPA when it reauthorized the modified project in 1983 through the appropriations process. This decision is being evaluated by the Corps; they are expected to appeal the ruling. In the meantime, the Corps has expressed a capability of $100,000 for continued design of the project. In testimony submitted to this subcommittee last year, I asked that such funding be provided for Wallisville in the event the injunction against the project was lifted. The committee complied with my request by inserting appropriate report language. I would hope the committee would do so again this year, so that design can continue expeditiously on this facility, if the legal questions are resolved.

Studies:

I have mentioned the inclusion of funds in the FY 1987 budget for a number of projects in the Trinity River Basin. The budget also includes $200,000 for the continued engineering and design of the navigation channel to Liberty component of that river basin plan. The development of a multiple-purpose channel to the existing Port of Liberty will provide for increased navigation, thus enhancing the economic development of that entire region.

The budget also provides $1.6 million to the Bureau of Reclamation to continue study of the Bedias Lake project, which will provide additional water supply to the Houston metropolitan area. I support the continuation of this study.

Bureau of Reclamation:

In addition to the Bedias study, the Bureau of Reclamation will continue a number of other activities in Texas with funds in this budget. Construction of the Nueces River and the Palmetto end project will continue. Funding is also provided for the continuation of rehabilitation work on irrigation facilities in Hidalgo County.

Operation and Maintenance:

I also strongly support the suggested appropriation of $55.5 million to the Army Corps of Engineers for essential maintenance work on a dozen channel and harbor projects in Texas. This work is necessary for the continued operation of facilities much needed in the transport of goods.

I greatly appreciate the opportunity to make my views known to the Subcommittee on Energy and Water Development.

STATEMENT OF CITY OF CLEAR LAKE SHORES, TX

The residents of communities surrounding in the Clear Lake/Clear Creek area must address several problems before the arrival of the 1986 hurricane season. The problems as we see them now are:

(1) decreased water absorption due to extensive development of the area;

(2) 146% increase of population in the past 15 years with no additional flood evacuation routes;

(3) restricted outflow for stream flooding from Clear Lake due to elevation of Highway 146, creating an effective levy;

(4) lack of compliance with a comprehensive flood plan.

We are also concerned that the subsidence problem we have been experiencing in the general Houston area for the past 40 years is being effectively dealt with.

The proposed $8,200,000 to be spent on the Clear Creek Flood Control Project would address three of our major problems in this area:

(1) construction of the second outlet, which would allow relief during severe stream flooding and with use of a gate provide shelter from tidal flooding;

(2) improve flood control in the Clear Creek area;

(3) require counties to enforce strict regulation to comply with the residual 100 year flood plain made by the Army Corps of Engineers. The extensive changes in our environment over the past few years increase our flood exposure. Combined with constricted evacuation, each hurricane season presents a greater likelihood of tragedy.

We believe that once this information is known and carefully examined, the proposed $8,200,000 will be appropriated to the Clear Creek Flood Control project.

RESOLUTION OF CITY OF FRIENDSWOOD, TX

CITY COUNCIL RESOLUTION NO. R 86-2

A RESOLUTION ENDORSING THE U.S. ARMY CORPS OF ENGINEERS CLEAR CREEK FLOOD CONTROL PROJECT; AND URGING THE UNITED STATES CONGRESS TO ACT FAVORABLY ON THE FY87 BUDGET.

WHEREAS, a serious flood problem exists in the Clear Creek Watershed where existing residential and commercial areas are periodically subject to extensive damages from rising waters in the creek; and

WHEREAS, in the City of Friendswood in July 1979, 1600 out of 3000 homes were flooded with coincident economic losses exceeding $38,000,000; and

WHEREAS, in the City of Friendswood in September 1979, 500 of these homes were again flooded; and

WHEREAS, in the City of Friendswood in January 1980, 75 of these homes were again flooded; and

WHEREAS, the citizens continue to suffer economic loss and mental anguish as a result of flooding; and

WHEREAS, the citizens have been donating their time and labor in an effort to clear the creeks and banks of debris; and

WHEREAS, the United States Congress in 1968 authorized the U.S. Army Corps of Engineers to design a flood control project which would provide a significant measure of protection from recurring flooding problems in the Clear Creek Watershed; and

WHEREAS, the study has been completed and a consensus has been achieved by all local sponsors and entities and endorsed by the 67th Texas Legislature; and

WHEREAS, the project has been approved by the U.S. Army Corps District in Galveston and the Corps Southwest Division; and

WHEREAS, further delays will significantly increase the cost of the project as well as the probability of additional flooding; NOW THEREFORE

BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF FRIENDSWOOD:

THAT the City re-endorse the U.S. Army Corps of Engineers Clear Creek Flood Control Project; and

THAT the City urge the Congress of the United States to adopt the FY87 budget and appropriate construction funds to that the U.S. Army Corps of Engineers may begin the rectification work as soon as possible; and

THAT the City urge the Congress to take whatever additional action is necessary to expedite the project and thereby reduce the emotional, physical, and economic suffering due to flooding.

THAT the City Secretary forward official copies of this resolution to the President of the United States, to the Speaker of the House of Representatives and President of the Senate of the United States Congress, and to all members of the Texas Delegation to the Congress, with the request that this resolution be officially entered in to the Congressional Record.

PASSED, APPROVED AND ADOPTED THIS 17TH DAY OF MARCH, 1986.

RESOLUTION OF CITY OF GROVES, TX

WHEREAS, the Groves City Council supports the following public works projects that Congressman Jack Brooks will present before the House Committee on Appropriations and Senator Lloyd Bentsen will present before the Senate Committee on Appropriations for funding in the FY 1987 Budget:

a) Clear Creek (construction)	$ 8,200,000
b) Dickinson Bayou (survey)	255,000
c) Galveston Harbor & Channel (operation & maintenance)	1,640,000
d) Gulf Intracoastal Waterway (operation & maintenance)	13,127,000
e) Hildebrandt Bayou & Tributaries (survey)	50,000
f) Houston Ship Channel (operation & maintenance)	11,790,000
g) Sabine Neches Waterway (operation & maintenance)	14,310,000
h) Taylors Bayou (construction)	8,600,000
i) Texas City Channel (operation & maintenance)	2,160,000
j) Texas City Channel (survey)	800,000
k) Trinity River, Channel to Liberty (advanced engineering & design)	200,000
l) Wallisville Lake (operation & maintenance)	205,000

NOW, THEREFORE, BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF GROVES, TEXAS:

THAT this body does hereby go on record as wholeheartedly supporting the above projects for funding in the FY 1987 Budget; and

BE IT FURTHER RESOLVED that a copy of this Resolution be furnished Congressman Jack Brooks, Senator Lloyd Bentsen, and members of the House and Senate Committees on Appropriations as evidence of the Groves City Council's support.

PASSED, APPROVED and ADOPTED this 24th day of March, 1986.

STATEMENT OF THE GALVESTON COUNTY COMMISSIONERS COURT, TEXAS

Galveston County has been the local sponsor with the U.S. Corps of Engineers for the construction of various flood control projects in Galveston County since the first seawall was started in Galveston shortly after the 1900 Hurricane. The Galveston seawall has now been extended in length to approximately 10 miles protecting the most populated part of the City of Galveston.

In 1962 (some 14 years after the first local bond issue was passed), construction began on the seawall protecting the cities of Texas City and La Marque from the ravages of hurricanes and high tides of Galveston Bay. In addition, flood control projects have been initiated to prevent flooding along Highland Bayou in the cities of Hitchcock, Santa Fe, and La Marque, a project on which construction started in 1974 and was completed in 1982, and along Clear Creek in the cities of League City and Friendswood in cooperation with Harris County and Brazoria County Drainage District No. 4, although no construction has yet begun. Galveston County is also the local sponsor for a re-study of the flooding problems on Dickinson Bayou, a bayou which flooded 1,000 homes in 1979.

We appear before this Honorable Committee to urge your support for appropriations for these projects in Galveston County. We are specifically requesting appropriations for construction on Clear Creek, which is now ready for construction, and for continuation of the engineering survey work on a tributary of Dickinson Bayou.

DICKINSON BAYOU

The Galveston County Commissioners Court is urging this Honorable Committee to approve $255,000 for the Corps of Engineers to continue the study of flood control measures on Dickinson Bayou. This is extremely important to Galveston County, inasmuch as over 1,000 homes were flooded along Dickinson Bayou during Tropical Storm Claudette in July of 1979 because of rains in the watershed area from 20 to 40 inches over a 24-hour period. This caused between $40,000,000 and $50,000,000 in damages along Dickinson Bayou, and Galveston County is anxious to act as a local sponsor to relieve the flooding conditions. The draft report completed by the Corps of Engineers in January, 1986, does not find a favorable benefit-to-cost ratio on the main channel of Dickinson Bayou. However, the report did find that on one of the tributaries, West Gum Bayou, there was an extremely high benefit-to-cost ratio for any of several construction projects. The Corps of Engineers is now determining whether a full public hearing should be held on the Dickinson Bayou Study, and subsequent to that, the final report will be prepared which will recommend construction on West Gum Bayou.

We are respectfully requesting that the $255,000 noted above, which is included in the Administration's budget, be approved so the Corps of Engineers can complete this study, and we can then initiate a construction project on West Gum Bayou. We hope you will agree that this study should be completed, and we sincerely hope you will favorably consider our request.

CLEAR CREEK FLOOD CONTROL PROJECT

The Galveston County Commissioners Court respectfully urges the Honorable Committee to approve $8,200,000 in construction funds for the Clear Creek Flood Control Project. These funds are included in the Administration's budget, and the U.S. Corps of Engineers is now ready to let a contract for the first phase of this project in FY 1986.

It is extremely important that the Clear Creek Flood Control Project begin construction in fiscal year 1986 and continue in FY 1987 with the funds recommended by the Administration. After approximately 14 years of planning, the Corps of Engineers made final engineering decisions on this project in 1983 and has completed detailed engineering design for the first phase which is from Clear Lake to just west of Highway 3. The Design Memorandum has been submitted to the Division Office of the Corps of Engineers and has been approved for construction. This project is designed to provide flood relief for over 500,000 people in the Clear Creek watershed in Galveston, Harris and Brazoria counties. It was also designed in such a way as to protect the sensitive environment of Clear Creek, and this decision received overwhelming public support in a January, 1982, public hearing. The three local sponsors--Galveston County, Harris County, and Brazoria County Drainage District No. 4--support the Corps of Engineers design which will accommodate a 10-year flood with the remainder of the 100-year flood plain to be protected by flood plain management.

In 1979, over 2,000 homes in Friendswood and League City along Clear Creek were flooded twice, in July from Tropical Storm Claudette and again in September. Several thousand homes were also flooded in Brazoria and Harris counties. Losses from flooding in these three counties from the 1979 floods were well over $200,000,000. People are desperate to do something--almost anything--on Clear Creek, and the Corps of Engineers is trying to expedite this project.

Inasmuch as the Clear Creek Flood Control Project has been in the study and design stage for over 16 years (authorized in 1968), it is most urgent that construction start as soon as possible. The study has been a high priority by the Corps of Engineers and over $2,500,000 has already been spent. It would be disastrous to the people along Clear Creek if construction on this project does not begin after all of the time, effort, and money spent in detailed studies. We sincerely hope you will approve $8,200,000 in construction funds for FY 87 for the first phase of the project. Galveston County passed a $5,000,000 bond election in November, 1985, to provide its local share of the cost. Thus, we are ready, willing, and able to assume our local responsibility for this project.

Thank you for your consideration of these requests and for your time in allowing us to be present at these hearings. We stand ready to assist you in any way and to furnish any additional information you may require.

STATEMENT OF BEAUMONT NAVIGATION DISTRICT, TEXAS

SABINE-NECHES WATERWAY

The Beaumont Navigation District of Jefferson County, Texas is the local sponsor of the Sabine-Neches Waterway as authorized by Congress.

The Sabine-Neches Waterway is a federally maintained navigation project extending from the Gulf of Mexico, through a jettied entrance at the mouth of Sabine Pass, inland to the deepwater ports of Port Arthur, Beaumont, and Orange, Texas, a total distance of approximately 84 miles. The project includes deep draft channels of the following dimensions; 42 feet deep and 800 feet wide across the Sabine Bank in the Gulf of Mexico; 40 feet deep and a varying width of 800 feet to 500 feet through the jetty channel; a depth of 40 feet and a width of 500 feet from the jetty channel to the Turning Basins at Port Arthur; a 40 foot depth and a 400 foot width from Port Arthur via the Sabine-Neches Canal and the Neches River to the Port of Beaumont; a 30 foot depth and a 200 foot width from mouth of Neches River upstream thru the Sabine River to the Port of Orange.

In addition to the above dry cargo ports, Mobil Oil Corporation, Texaco, Incorporated, Chevron, American Petrofina Company of Texas and Union Oil Company of California have located their major refineries along this ship channel. These five refineries have a total rated processing capacity of 1,556,000 barrels of crude oil per day. This is approximately 12% of the nation's refining capacity. A great majority of this crude oil is imported by tankers through this waterway and the ports and energy related industries along this channel have billions of dollars invested in pipe lines, tanks, wharves, docks and other plant installations. A recent survey reveals that a 50 million dollar energy related expansion program is about to get underway. Additional expansion is being programmed, the total outlay of which will exceed 70 million dollars. Other industries are expected to locate in the area.

In addition to providing crude oil to the local refineries, Sun Marine Terminals also furnishes others with considerable oil. The Department of Energy has invested in excess of 35 million dollars in Sunoco's Neches River facilities, not including the cost of a pipeline to the Hackberry Strategic Reserve Salt Dome oil storage terminal, nor does it include the development of the Big Hill Storage Terminal, the construction of which is underway. The majority of this commodity is foreign imported crude oil and the handling requires the use of many large tankers which further congest this already extensively used waterway.

All of the foregoing development is largely due to the existence of the Sabine-Neches Waterway, our area's life line to the world for its exports and imports.

This extensive and expanding complex comprises a critical basic energy related industry that is absolutely vital to the nation's economic and energy needs. Their diminution for any reason would have a deleterious effect nationally as well as regionally.

The Corps of Engineers found that in 1983, (the latest figures available), there was in excess of 55,000,000 tons of dry and liquid cargo shipping on this waterway, plus 40,000,000 tons of Gulf-Intracoastal traffic which also moved thru these channels. Shipping of this magnitude necessarily involves the use of a great many vessels which, of course, creates congestion on the waterway. To compound the problem the present size of the grain ships, oil tankers and other cargo ships using this waterway are such that an even deeper and wider channel is needed at times.

Recent studies by the Corps of Engineers and complaints from the shipping industry reflect that there is serious siltation and shoaling in the Gulf entrance channel at Sabine, with extensive shoaling along several reaches of the inland channels. They find that these conditions will rapidly become worse, and, if not corrected, eventually the channel could be closed to deep sea navigation.

Correcting these conditions will decrease chances of collisions and groundings of the many hundreds of vessels carrying crude oil and refined products. Such occurrences, as stated by the Corps of Engineers in their environmental impact report "would result in adverse environmental impact and public health hazards". Failure to maintain the channel would result in severe adverse economic effects on the project area, the state and even the nation. Effects would include the loss of billions of dollars worth of facilities adjacent to the channel, loss of employment for thousands of people and disruption of the manufacture and transportation of a significant portion of the nation's "fossil fuel supply".

The Corps of Engineers' break down of the 14 million three hundred ten thousand dollars included in the proposed budget for F.Y. 1987 will be utilized for dredging the following sections of the Sabine-Neches Waterway: Sabine Bank Channel; Sabine Pass Outer Bar Channel; Port Arthur Canal; Port Arthur Turning Basins and lower reach of Sabine-Neches Canal.

As the sponsoring agency, Beaumont Navigation District stands ready to provide all needed disposal land areas, rights-of-way, relocations and confining structures for this project.

The District, representing the above mentioned many ports, refineries, grain elevators and other shippers using this Waterway, supported by our Congressman, the Honorable Jack Brooks, respectfully request your favorable consideration for the inclusion of 14 million three hundred ten thousadnd dollars in the F.Y. 1987 budget, in order that this badly needed work may be accomplished.

TAYLORS BAYOU

The Beaumont Navigation District, as one of the sponsors of the Taylors Bayou Drainage and Flood Control Project, is also responsible for the operation of the Navigation and Salt Water barrier gates near the mouth of Taylors Bayou.

Over a forty year period we have been in a position to observe the numerous artifical changes in the area that have adversely affected drainage of this stream.

The first set of existing gates were installed in 1937 and functioned as salt water barriers, not as flood gates. Later the J. D. Murphee Wildlife Management Area was created by constructing a system of levees along Taylors Bayou and the Intracoastal Canal restricting the natural course of flood waters across the wetlands into the Intracoastal and thence to the Gulf. Then in 1972, the Rhodair Gulley, Lakeside and Alligator Bayou pump stations of the Port Arthur Hurricane Protection System were installed. These pumps have a combined capacity of over two million gallons per minute and discharge into the lower reach of Taylors Bayou just above and below the salt water gates. These pumps operate during periods of flooding, raising the level of the Bayou which backs water up into homes and streets of Beaumont. State highway 73 running from Port Arthur west to Winnie is yet another obstruction to the traditional flow of water from the developed section of Beaumont toward the Gulf. During a rain of any magnitude, a one to three foot differential builds up on the North side of this highway, holding water on the developed areas of North Jefferson County.

Construction on Phase I is well advanced. The Outfall Canal and the Diversion Channel have been dredged and the Salt Water Barrier is 90% complete. Pipe lines have been relocated and a contract has been awarded for dredging that section of the Gulf-Intracoastal Waterway from mouth of Outfall Canal eastward to the Sabine-Neches Waterway. Therefore, it is important that sufficient funds be provided to continue this urgently needed work before more costly damages are inflicted on the home owners and the businesses of our community.

As one of the sponsoring agencies, Beaumont Navigation District stands ready to meet its commitments to furnish its share of the local assurances required.

The District, representing the people and industries of this district, and supported by our Congressman, the Honorable Jack Brooks, respectfully request that 8 million six hundred thousand dollars be included in the F.Y. 1987 budget, in order that this highly important work be continued.

STATEMENT OF HARRIS COUNTY FLOOD CONTROL DISTRICT, TEXAS

I am James B. Green, Director of the Harris County Flood Control District, a political subdivision of the State of Texas, created by the State Legislature in 1937 after a series of disasterous floods had ravaged our area, threatening life and property.

The 1935 flood inundated two thirds of the County, took 15 lives, and so silted up the Houston Ship Channel that it took eight months to clear it so that it was safe for navigation.

It was as a result of that continued flooding threat that the U. S. Army Corps of Engineers constructed the Addicks and Barker Dams reservoir system in the western portion of Harris County, a system that still provides major protection to our area.

So it is, Mr. Chairman, that I appeal to you and the honorable members of this Committee to consider favorably the public works projects before you that will guarantee our continued protection from the ravages of future floods.

I come to you on behalf of Harris County Judge Jon Lindsay and the members of Commissioner's Court, who have supported the Clear Creek project since its inception in 1966, both by resolution and by their active participation. Without their encouragement and help, the Flood Control District would not have been able to carry out its own maintenance and improvement efforts in the watershed while awaiting for the Corps project to begin.

As you and most of your Committee may or may not know, Harris County is located on the flat coastal plains of our State in an area subject to heavy and intense annual rainfall and the annual threat of hurricanes and tropical storms. It is, in my professional opinion, one of the absolutely most difficult areas to drain and protect from flooding in the United States.

This is borne out by the fact that in 1979, for instance, the Houston metropolitan area accounted for an estimated 43 percent of all claims paid by the National Flood Insurance Program.

Mr. Chairman and honorable members of the Committee, I believe that each and every Federal dollar spent on flood control projects in our area will be paid back many times over in just the cost of Federal insurance and other aid that will be necessary if such projects as the Clear Creek construction proposed by the Corps of Engineers are not funded and completed.

Over a period of years, we have seen the truth of this wisdom borne out by looking back at the costs we have sustained in our area as a result of flooding and comparing those costs to what it would take to improve our channels adequately.

Mr. Chairman and members of the Committee, we have waited long and with much anticipation for the Clear Creek project to get underway. If every person who has sustained damages to their homes and property as a result of flooding along this waterway could be here today, I do not know where we could find a room large enough to hold the meeting.

In December of 1981, the Corps of Engineers completed their draft of the General Design Memorandum for this project. We looked at this as a milestone in providing cost-effective flood protection for the residents of Harris County and Galveston County to the south. Now a request for funding of first phase construction work by the Corps is before your Subcommittee. I ask you on behalf of the citizens of our area to act favorably and expeditiously upon this request.

The Clear Creek Watershed drains approximately 260 square miles of flat, coastal plain which has a maximum elevation of approximately 75 feet. Clear Creek and its 17 tributaries drain into Clear Lake and from there into Galveston Bay which is recognized as the largest and most important (economically and ecologically) bay system along the Texas Gulf Coast.

This is a rapidly growing urban area which includes the site of the National Aeronautics and Space Administration Johnson Space Center, a number of local branches of national aerospace corporations and contractors, the homes of the technical and professional people who staff those facilities, and a portion of the spillover of the petrochemical oriented businesses that line the Houston Ship Channel.

Mr. Chairman, let me reiterate the Corps' statement on Flood Damage Reduction contained in their General Design Memorandum draft: "Flooding is a serious problem in the Clear Creek Watershed. Throughout the watershed, Clear Creek meanders and has a small channel capacity relative to the areas drained; consequently, flooding is experienced at frequent intervals throughout the area. As the area continues to be urbanized, the flooding increases in intensity and frequency. The flow of floodwaters in the watershed is impeded by the relatively flat topography. Clear Creek and its tributaries are crossed by numerous bridges and pipelines which further restrict the passage of flood waters and increase flood stages."

"In the Clear Creek basin, there are about 19,000 acres of land subject to flooding by the 100-year storm. Most of this area is along the main channel with a smaller amount along the various tributaries. In the 100-year flood plain, approximately 12,300 acres or 65 percent is urban and built-up; the reamining 6,700 acres are distributed between agricultural (1,200), forest and wetlands (2,700), water bodies (1,600) and vacant and open space (1,200). The 100-year flood plain is delineated on Figures I-2 and I-3; this flooding is coincidental with a tidal elevation of two feet above mean sea level in Galveston Bay. The flood plain shown is based on detailed hydraulic studies of the area."

"The area's vulnerability to tropical storms and hurricanes is another factor that demands flood control needs. The widespread flooding that accompanied tropical storm "Claudette" in July of 1979 emphasized the seriousness of this situation. This storm, which caused in excess of $227.5 million dollars in total damages, is regarded as the worst in the area's history. Within the Clear Creek Watershed, over 5,000 structures were flooded and the total residential and commercial damages exceeded $90 million dollars. Major floods in 1973, September of 1979, along with Hurricane Alicia in 1983 which caused an estimated $33.2 million in Harris County alone, also caused substantial flooding and economic loss along Clear Creek."

Clearly, the Corps of Engineers has identified the need to reduce the flood damages now being sustained in the Clear Creek Watershed on a recurring basis.

Much time and effort has gone into the Federally funded work the Corps of Engineers has already done. I realize the amount requested for their construction project is not that substantial, relatively speaking, but let me assure you that the completion of their work will have an immensely substantial benefit to our community, our State and our Nation.

Mr. Chairman and Honorable members of the Committee, these Federal dollars spent today will save many more Federal dollars in years to come.

STATEMENT OF CLEAR CREEK DRAINAGE DISTRICT, TEXAS

THE CLEAR CREEK DRAINAGE DISTRICT OFFERS THIS STATEMENT IN SUPPORT OF THE U. S. ARMY CORPS OF ENGINEERS' CLEAR CREEK (TEXAS) FLOOD CONTROL PROJECT WITH THE REQUEST FOR CONTINUING CONSTRUCTION FUNDING IN FY-1987.

The Clear Creek Flood Control Project is an absolute necessity to the health, safety, and well-being of the people who live in the Clear Creek watershed. As the land in the watershed has undergone development, pastures and farmland have been converted to parking lots, streets, runways, buildings, and other surfaces from which rain water runs off extremely rapidly. Although there have been, and continue to be, improvements made to drainage arteries in the region by local agencies, consistent with their resources, and although storm water run-off and flood plain control has been in effect in the counties of the Clear Creek watershed since 1979-80, the effects of land development and subsidence have already reached the point that Clear Creek simply cannot carry storm water away to Galveston Bay fast enough to keep water out of our homes. So, until Clear Creek is improved in its water handling capacity, we do not have the ability to make substantial improvement to the flood hazards that our citizens are living with every day.

People here realize that it is not feasible to prevent flooding by a storm like Claudette which struck this area in July, 1979, and dropped 30-40 inches of rain on us in a two-day period. However, our people are getting water in their homes when much less spectacular rains occur -- five-year to ten-year frequency precipitation is causing flooding. Even those people who are not getting water in their homes are impacted: street flooding is so severe that emergency vehicles cannot get through. A fire or serious medical problem occuring during, or for many hours after, such rains, would go unanswered in many places.

The Corps of Engineers has devised a plan for improving Clear Creek that is economically sound (benefit to cost ratio of 2.6), environmentally acceptable, and will completely contain the watershed run-off for a ten-year frequency storm. Furthermore, the 100-year flood plain will be reduced by 25% overall in the watershed, and by as much as 75% in some portions of the watershed. We fervently hope that appropriation of construction funds will again be approved and included in the FY-1987 Budget. The project is not frivolous, nor a convenience type of improvement--it deals with people's safety and health, both physical and psychological. Many of our people fear rain; anxiety levels run very high when a heavy rain lasts more than a couple of hours, especially when water starts to rise in the streets and into people's yards!

Gentlemen, we NEED the Clear Creek Project and respectfully request that the additional construction funding of $8 million be included in the FY-1987 Budget.

RESOLUTION NO. 86-2

A RESOLUTION ENDORSING THE U. S. ARMY CORPS OF ENGINEER'S CLEAR CREEK FLOOD CONTROL PROJECT, STATE OF TEXAS: AND URGING THE UNITED STATES CONGRESS TO CONTINUE CONSTRUCTION FUNDING OF THE PROJECT IN THE FY-87 BUDGET.

WHEREAS, the Clear Creek Watershed includes portions of Galveston County as well as parts of Harris County and Fort Bend County, and

WHEREAS, a serious flood problem exists in the Clear Creek Watershed where existing residential and commercial areas are subject to extensive damages from rising waters in Clear Creek and its tributaries, and

WHEREAS, the Clear Creek Drainage District is the agency responsible for flood control in those portions of Clear Creek and its tributaries within its District, and

WHEREAS, the taxpayers of the District made a substantial committment in 1982 to the concept of self-help by voting an increase in taxes for flood control, and

WHEREAS, in spite of the increased taxes, the amount by which the flood hazard in the District can be reduced without a major project to increase the flow capacity of Clear Creek is severely limited, and

WHEREAS, the scope of the work required to achieve the necessary improvements on Clear Creek requires the extensive technical/management resources that the Corps of Engineers can provide, and

WHEREAS, the cost of the improvements needed on Clear Creek far exceeds the financial capabilities of local entities, and

WHEREAS, the benefits of the Corps of Engineers Clear Creek Project would include substantial reductions in claims against the National Flood Insurance Program, and

WHEREAS, flood losses in the City of Friendswood, which lies within the boundaries of the Clear Creek Drainage District, has resulted in it being the eleventh highest community in the nation in terms of number of flood claims, and

WHEREAS, the residents in the District continue to experience economic loss as a result of unnecessarily frequent flooding, and

WHEREAS, the residents of the District continually suffer extreme mental anguish because of the frequent threat of flooding, as well as the flooding itself, and

WHEREAS, the Clear Creek Drainage District, within the limits of its resources, and with the cooperation of other local governmental agencies, as well as individual citizens who have donated their time and labor, has been clearing debris and executing structural improvement projects in the creeks to increase their capacity, and

WHEREAS, the U. S. Army Corps of Engineers has designed a cost effective flood control project as authorized by the United States Congress which will provide a significant measure of protection from recurring flooding problems in the Clear Creek Watershed, and

WHEREAS, Congress approved $2 million to start construction of the Clear Creek Flood Control Project in the federal budget for fiscal year 1986, and

WHEREAS, delays will significantly increase the cost of the project as well as the probability of additional flooding, now, therefore

BE IT RESOLVED BY THE BOARD OF SUPERVISORS OF THE CLEAR CREEK DRAINAGE DISTRICT OF GALVESTON COUNTY:

THAT the District reendorse the U. S. Army Corps of Engineers Clear Creek Flood Control Project, and

THAT the District urge the Congress of the United States to recognize that the Corps of Engineers Clear Creek Project is not a mere convenience item, but is absolutely necessary in order to restore the quality of life of thousands of people to a reasonable condition that they have every right to expect, and

THAT the District urge the Congress of the United States to approve the $8 million necessary to continue funding for construction of the project in the FY-87 budget.

THAT the District urge the Congress to take whatever additional action is necessary to expedite the project and thereby reduce the emotional, physical, and economic suffering due to flooding.

PASSED, APPROVED, AND ADOPTED THIS 25th DAY OF MARCH, 1986.

STATEMENT OF JEFFERSON COUNTY (TX) DRAINAGE DISTRICT NO. 6

The Taylors Bayou Drainage and Flood Control Project, a joint local-federal effort, is moving ahead on schedule to help in resolving many drainage and flooding problems long suffered by people living in Jefferson County. This success is the result of individual efforts by our own Congressman, The Honorable Jack Brooks, and by your able leadership and willingness to support worthwhile projects of this nature.

Since actual work has begun, two (2) dredging contracts have been completed, a third has been let with work to start within weeks, a saltwater barrier has been nearly completed, several major levees have been relocated to allow the channel widening and several pipelines have been adjusted. Once the third dredging contract and the saltwater barrier are finished, all of Phase I of this large undertaking will be in service.

Phase II is well underway with the acquisition of right of way and spoil disposal areas plus the purchase of mitigation land to satisfy the requirements set forth by environmental interests. This phase of the project has been accomplished with local funds.

The funding level for consttuction in the forthcoming year is anticipated to be $8.6 million and we wholeheartedly support that request.

In connection with drainage and flood control improvements associated with the Taylors Bayou Project, the District requests your favorable consideration of $50,000 for the Hillebrandt Bayou and Tributaries Survey.

Additionally the District also supports the funding requests for the Sabine-Neches Waterway (O & M) in the amount of $14.3 million and the Gulf Intercoastal Waterway (O & M) in the amount of $13.1 million.

Your active support in obtaining funding for these projects is greatly appreciated.

RESOLUTION OF CITY OF DICKINSON, TX

STATE OF TEXAS
COUNTY OF GALVESTON
CITY OF DICKINSON

A RESOLUTION OF THE CITY OF DICKINSON, TEXAS, SUPPORTING THE CORPS OF ENGINEERS' STUDY OF FLOOD CONTROL MEASURES ON DICKINSON BAYOU.

WHEREAS, major flooding has occurred along Dickinson Bayou and surrounding areas causing thousands of residents to live with a constant threat of more flooding; and

WHEREAS, extensive construction and development has taken place in this area since the last study by the Corps of Engineers of a benefit-to-cost ratio of a flood control project on Dickinson Bayou; and

WHEREAS, the Honorable Senate and House Energy and Water Development Subcommittees are considering allocation of funds; and

WHEREAS, the City of Dickinson is seeking adequate appropriations for the continued study by the Corps of Engineers of flood control measures on Dickinson Bayou; and

WHEREAS, it is imperative that a new determination be made regarding the benefit-to-cost ratio of a flood control project on Dickinson Bayou; and

WHEREAS, we urgently request that $255,000.00 be approved and designated to continue this study;

WHEREAS, the City Council of the City of Dickinson met in open session on March 25, 1986, and voted to approve this resolution;

NOW THEREFORE BE IT RESOLVED that the City of Dickinson, Texas, requests assistance and allocation of funds to complete the Corps of Engineers study of flood control measures on Dickinson Bayou.

PASSED AND APPROVED this the 25th day of March, 1986.

STATEMENT OF THE CITY OF BEAUMONT, TX

Over the past several years, the city of Beaumont has continued to actively pursue solutions to the drainage problems that lie within its city limits. In order to address the problems, several years ago the citizens voted a substantial bond issue in order to pay for the city portion of improvements to significant drainage structures that lie within the city.

A necessary part of this effort to alleviate drainage problems in this part of the State has been the parallel improvements that have now commenced on the Taylors Bayou drainage and flood control project that has, with your support, gotten underway. From the perspective of the citizens of Beaumont, we would ask for your support for the current year funding level of $8.6 million that is earmarked for continuation of this crucial project. We would also ask your favorable consideration for an additional $50,000 that is needed for a study of the Hillebrandt Bayou and tributaries, inasmuch as this area also contributes greatly in the high flood situations to the drainage problems that occur within the city limits of Beaumont. It should be noted that both Taylors Bayou and Hillebrandt Bayou serve as principal outfalls for all drainage improvements within the city of Beaumont, and improvements to them are necessary in order to maximize the effectiveness of the improvements that are being made within the corporate limits.

We have received considerable support from Congressman Jack Brooks over the years. In addition, we have appreciated your past efforts and hope that you can continue to support this project.

Statement of the City of League City, TX

The residents of the city of League City, TX, strongly support the expenditure of funds for the Clear Creek flood control project. Extensive development along Clear Creek and the resulting increase in population density have made flood control along Clear Creek a major health and safety concern for both residents and public officials. If present and future development is to be managed effectively so that property can be protected and the public safety maintained, the proposed $8.2 million appropriation for the project must be approved. Implementation of this badly needed project must not be delayed.

Your support and the support of the Congress is greatly appreciated.

Statement of the City of Nederland, TX

This is to advise that the city of Nederland is situated in the Ninth Congressional District, TX, and recommends your consideration of fiscal year 1987 budget appropriations for the following projects:

Projects	*Fiscal year 1987 budget*
Clear Creek (construction)	$8,200,000
Dickinson Bayou (survey)	255,000
Galveston Harbor and Channel (oper. and maint.)	1,640,000
Gulf Intracoastal Waterway (oper. and maint.)	13,127,000
Hillebrandt Bayou and tributaries (survey)	50,000
Houston ship channel (oper. and maint.)	11,790,000
Sabine-Neches Waterway (oper. and maint.)	14,310,000
Taylors Bayou (construction)	8,600,000
Texas City channel (oper. and maint.)	2,160,000
Texas City channel (survey)	800,000
Trinity River, channel to Liberty (advanced engineering and design)	200,000
Wallisville Lake (oper. and maint.)	205,000

Your consideration of these recommendations is appreciated.

Statement of the City of Port Arthur, TX

GULF INTRACOASTAL WATERWAY (OPERATION AND MAINTENANCE)

The city of Port Arthur fully supports the request for $13,127,000 for operation and maintenance of the intracoastal waterway system.

Approximately 12 miles of the busiest part of this waterway is within the city limits of Port Arthur and it plays a vital role in serving the major industry of this area.

The city of Port Arthur would like to go on record in support of this operation and maintenance.

SABINE-NECHES WATERWAY (OPERATION AND MAINTENANCE)

The city of Port Arthur would like to go on record for approval of the fiscal year 1986 funds, $14,310,000, as requested by our honorable Congressman Jack Brooks.

The economic well-being of all citizens in southeast Texas and this Nation is dependent upon adequate deep water for the transportation of goods produced to serve the Nation. Approximately 11 percent of the Nation's oil supply is handled in this area.

Your favorable action would be appreciated.

TAYLORS BAYOU (CONSTRUCTION)

The city of Port Arthur fully supports the request of Jefferson County Drainage District No. 6 for the fiscal year 1986 for $8.6 million, to plan for the construction of flood control on Taylors Bayou, which drains the largest watershed area in Jefferson County.

Serious drainage problems in Beaumont and in the extraterritorial area of Port Arthur have caused major damage by the flooding of this bayou. The flooding was caused by the normal development of the upper watershed area and heavy rains this past year.

The city of Port Arthur wishes to go on record in support of this flood control project and encourages you to approve funds for the continuation of this project.

STATEMENT OF THE CITY OF TEXAS CITY, TX

The office of the mayor, the city commission, and the citizens of Texas City sincerely request your support for adequate appropriations for the operation and maintenance of the Texas City channel and the Texas City channel survey. The Port of Texas City handles more than 33 million tons of shipping annually, the majority of which consists of raw and finished products from our multi-million-dollar petrochemical industries. The economic life of our community depends to a large degree upon the industries and the many supporting service and retail businesses. With the present falling crude prices, these improvements would significantly reduce transportation costs into Texas City and tend to increase local capital investment and create new employment opportunity, thereby benefiting the overall local economy, which has been particularly hard hit this year.

Residents of the Dickinson and Clear Creek areas have been flooded repeatedly because of heavy rainfall. The Dickinson Bayou survey is absolutely essential as is the need for funds for Clear Creek construction to begin in order to relieve the problem on Clear Creek. The citizens of Galveston County passed a $5 million bond program in November 1985, to provide its local share of the cost to this vital program that affects so many of our citizens.

We urge your support of the above projects and their inclusion in the fiscal year 1987 budget. Should you have any specific questions pertaining to these projects, we will be most willing to cooperate in providing any information we have available for the use of your committee.

STATEMENT OF CHAMBERS COUNTY, TX

Chambers County requests that the Trinity River, channel to Liberty (advanced engineering and design) project funding remain included in the fiscal year fiscal year 1986 budget.

The Trinity River, channel to Liberty project is of great importance to Chambers County and should be considered in the top priority group for funding.

The funding of the Trinity River, channel to Liberty project for advanced engineering and design will result in the future productivity of the river. When completed, the project will be a great benefit for Chambers County.

Chambers County also requests that the Wallisville (operation and maintenance) project funding remain included in the fiscal year 1986 budget.

The Wallisville project is of great importance to Chambers County and should be considered in the top priority group for funding.

The continued funding of the Wallisville project for operation and maintenance will result in the preserving and continued upkeep of the existing property and facilities.

Proper care and maintenance will protect the condition of the existing property when funds become available for completion under the project plans. When completed, the project will be a great benefit for Chambers County.

STATEMENT OF JEFFERSON COUNTY COMMISSIONERS' COURT, TX

The Commissioners' Court of Jefferson County, TX, would like to go on record in support of the following projects which pertain to Jefferson County: Gulf Intracoastal Waterway, Hillebrandt Bayou and tributaries, Sabine-Neches Waterway, and Taylors

Bayou. It is our understanding that the subcommittee hearings will take place sometime between April 14 and 16, 1986.

It is our opinion that said projects should be included in the 1987 budget as these projects are vital to our area and are in the best interest of the citizens of Jefferson County.

STATEMENT OF PORT OF BEAUMONT NAVIGATION DISTRICT, TX

The Port of Beaumont Navigation District of Jefferson County, TX, strongly supports that item in the budget for public works for fiscal year 1987 which proposes a total of $14,310,000 for the continued operation and maintenance of the Sabine-Neches Waterway. We respectfully urge favorable consideration and action by your committee.

The Port of Beaumont Navigation District of Jefferson County, TX is the agency which operates and maintains the public wharves of the Port of Beaumont.

Proper maintenance of this waterway is absolutely essential if the marine terminals with facilities located on this ship channel are to continue operating at maximum efficiency. We respectfully urge your committee to approve the requested funds.

STATEMENT OF PORT OF GALVESTON, TX

We respectfully request your consideration of our comments on the following project included in the fiscal year 1987 budget: Galveston Harbor and Channel (operation and maintenance).

The Port of Galveston's Harbor and Channel is authorized to be maintained at a 40-foot project depth. This depth is required on a regular basis for vessels serving the port's two export elevators, the container terminal, and general cargo vessels.

Port-related activities account for approximately 50 percent of Galveston's economy.

The President's budget includes $1,640,000 for this work. We respectfully request your favorable consideration of this item.

STATEMENT OF BEN GOLDSTEIN, TEXAS

We respectfully ask that you favorably consider the public works funds request by our Congressman Jack B. Brooks for the operations and maintenance of the Sabine-Neches Waterway and the Gulf Intracoastal Waterway of Texas. Only minimally necessary funds are requested to insure the operation and maintenance of these vital Federal waterways.

The major refineries on our Sabine-Neches Waterway annually produce a high percentage of America's energy fuels. The waterway handles up to 38 million s/t of commerce, including import crudes, domestic and export shipments as well. The economic and military security of America depends on keeping these vital waterways open, now and in the future.

The Gulf Intracoastal Waterway of Texas is an indispensable connecting link between hundreds of chemical and petrochemical plants and other refineries, here and across the gulf coast. Combined plant investment of these essential industries exceeds $30 billion, just on the Texas segments of the Gulf Intracoastal Waterway alone, according to recent estimates.

No new construction is anticipated in these requests, and the funds appropriated are vital to our economy and national defense. Your favorable consideration is justified, we submit, and is respectfully requested.

STATEMENT OF SABINE PASS PORT AUTHORITY, TEXAS

We are very interested in several projects included in the fiscal year 1987 budget. One of these is the Gulf Intracoastal Waterway (operation and maintenance) for $13,127,000. This waterway is very important to the gulf coast as well as the rest of the Nation. We must keep this waterway open and in good condition for economic reasons now, but it is a dire necessity in time of war. Some of us are old enough to remember the ships we lost in the Gulf of Mexico in World War II.

Another project is the Sabine-Neches Waterway (operation and maintenance), $14,310,000. This waterway is of utmost importance to the whole southeast Texas area and especially to our immediate vicinity. The economy of this part of Texas largely depends on this waterway.

The Sabine Pass Port Authority supports the efforts of the Energy and Water Development Subcommittee as well as all others involved in appropriations for the budget for these projects.

STATEMENT OF JEFFERSON COUNTY DRAINAGE DISTRICT NO. 3, TEXAS

Construction of the Taylors Bayou flood control project is well underway and is on schedule. The success of the project is the result of the efforts of our Congressman, the Honorable Jack Brooks, and your cooperation and willingness to support such worthwhile projects as this.

Since the work began, the outfall channel for the project has been completed and the widening and deepening of the Intracoastal Waterway is underway. The salt water barrier and the seven salt water intrusion gates are nearly completed. This means that phase 1 of the project is almost finished. It is of vital importance that phase 2 of the project be continued and finished as soon as possible in order to tie in the overall project so that flooding of homes, residential areas, and vital farmland will no longer continue.

The Corps of Engineers has informed us that they are ready to go ahead with phase 2 and the $8.6 million allocated in the currently proposed budget for the continued work on this project is of vital importance to the area.

Jefferson County Drainage District No. 3 is requesting your support and assistance in having this amount included in the budget for the fiscal year 1987.

STATEMENT OF JEFFERSON COUNTY DRAINAGE DISTRICT NO. 7, TEXAS

Jefferson County Drainage District No. 7, as one of the local sponsors of the Taylors Bayou project, wishes to endorse the proposed $8.6 million provided in the fiscal year 1987 budget for the continued construction of this vital drainage project.

Sixty percent of Jefferson County and most of the 107 square miles of Jefferson County Drainage District No. 7 drain into the Taylors Bayou system, either through pumping stations or by gravity flow. Restricted outlets have not only hindered the flow of water within the district, but have aggravated flooding in upland areas.

This project includes the widening and deepening of the existing channels, construction of a bypass channel, and the installation of salt water gates. Completion of these improvements will result in the realization of the full benefits of existing and planned upstream drainage projects.

Originally recommended by the Corps of Engineers in 1948, the completion of this project is today, a necessity.

We request the Committee's approval of the $8.6 million proposed in the 1987 budget.

STATEMENT OF GALVESTON (TX) CHAMBER OF COMMERCE

The board of directors of the Galveston Chamber of Commerce at their meeting on Tuesday, April 8, 1986, unanimously supported the budget appropriation for 9th District public works projects, including the $1,640,000 for the Galveston Harbor and Channel. (See following list).

We appreciate the opportunity to support Senator Lloyd Bentsen in his efforts to secure funding for these projects.

Thank you for your consideration.

Clear Creek (construction)	$8,200,000
Dickinson Bayou (survey)	255,000
Galveston Harbor and Channel (oper. and maint.)	1,640,000
Gulf Intracoastal Waterway (oper. and maint.)	13,127,000
Hillebrandt Bayou and tributaries (survey)	50,000
Houston ship channel (oper. and maint.)	11,790,000
Sabine-Neches Waterway (oper. and maint.)	14,310,000
Taylors Bayou (construction)	8,600,000
Texas City channel (oper. and maint.)	2,160,000
Texas City channel (survey)	800,000
Trinity River, channel to Liberty (advanced engineering and design)	200,000
Wallisville Lake (oper. and maint.)	205,000

COMMITTEE PROCEDURES

Senator COCHRAN. Let me say at this point that Chairman Hatfield, the chairman of the subcommittee and the full committee, is unable to be here this morning. He expresses his regrets that he cannot be here and he has asked me to chair the hearing this morning. When I accepted, I didn't know I would have a cold and would have a difficult time talking this morning, so I hope you will excuse that. We will make our way through this hearing and, with your cooperation, we will hear from all of those who are present today who want to testify.

We have a large number of witnesses, as you can see by just looking around the room. Most of you have worked very hard to prepare a thoughtful and careful statement describing your interests and requests today, and those statements will be included in the record in full. I would hope that you wouldn't read the entire statement you have prepared. We will do that, as we review the record of the hearing and as we review these projects and ideas that you are advancing for the subcommittee's consideration. They will be a part of the transcript and record of the subcommittee and we will review them in our effort to make correct decisions and judgments about the level of funding of all of the activities that come under the jurisdiction of this subcommittee.

But we would appreciate your oral testimony to the subcommittee and ask that you highlight the most important parts of the statement, if you could, for our benefit. We would appreciate very much your cooperation in that way. It will ensure that everybody who is here can be here heard and can present testimony to the subcommittee.

We have a list of those scheduled to testify this morning and our first group is the Trinity Improvement Association, Mr. Russell Perry, who is president of the association, and Mr. Marshall Rice, who is the executive vice president.

TRINITY RIVER BASIN PROJECT

STATEMENTS OF:

RUSSELL PERRY, PRESIDENT, TRINITY IMPROVEMENT ASSOCIATION

MARSHALL RICE, EXECUTIVE VICE PRESIDENT

Senator COCHRAN. We welcome you to the subcommittee and ask that you proceed with your presentation.

Mr. PERRY. Thank you, Mr. Chairman, members of the committee.

My name is Russell Perry of Dallas, TX, and I am president of the Trinity Improvement Association. I am testifying on behalf of interests from throughout the Trinity River basin of Texas. Last week, a delegation numbering 63 persons coming from cities throughout the basin and the city of Houston, which receives water from the basin, traveled to Washington to appear before the House Appropriations Subcommittee. The members included county commissioners, mayors, council members, chambers of commerce officials, and water managers. We were unable to work out arrangements to appear before both Houses on the same or successive days. Accordingly, the delegates, who pay their own expenses, chose to have Mr. Rice and myself testify for them today. I will present overall comments and Mr. Rice will summarize the testimony of the delegates which was presented in person to the House subcommittee.

BUDGET REQUEST OF CORPS OF ENGINEERS

With regard to the fiscal year 1987 budget for civil works projects for the Corps of Engineers, we note that the nationwide budget request for a total of $3.078 billion represents an increase of 32 percent over the comparable figure for fiscal year 1986. Because these projects create the infrastructure on which our economic growth and quality of life depend, we support this budget, even in times of dire budget problems.

Moreover, much of this proposed expenditure will be paid back at interest while also contributing to the economy in the form of payment for services and materials during the project construction. The net cost to the Federal Government for the fiscal year 1987 civil works program, after offsetting charges and contributions are taken into account, would be $2.850 billion, up only 24 percent from fiscal year 1986.

This indicates a larger share of the costs will be born by local governments or by users of the projects. Because of the Federal budget deficits, we support this trend in cost sharing, but we also must caution you to be careful that we don't lose this benefit in the new tax bill that is being talked about, because that will increase the costs considerably.

FUNDING REQUEST

As you will note in the summary of requests which appears at the beginning of our written testimony, our delegation supports the budget request for $60.585 million for 14 projects, as listed, for the Corps of Engineers, and $1.6 million for 1 project for the Bureau of Reclamation.

The budget request for the Trinity basin projects is down some $16 million as compared to the fiscal 1986 budget request. This drop is largely because our two major construction projects—Lake Ray Roberts and Joe Pool Lake—are approaching completion. We had hoped the budget request would have contained more funds for Cooper Lake, which the Senator just mentioned to you, which was delayed for 13 years by Federal court order, causing a huge escalation in costs and hardship to the communities, which are still waiting for this water.

We believe it would be in order for the committee to consider funding this project to the revised Corps' capability which was not available at the time the budgetary requests were being finalized.

We recommend the full funding on the Bureau of Reclamation's Bedias Creek investigation. If this project proves feasible, it will greatly benefit middle- and lower-Trinity basin and metropolitan Houston.

WALLISVILLE LAKE, TX

We also have an administrative request concerning the Wallisville project. The project remains under injunction by a Federal judge who has recently determined that the Congress acted improperly in its actions on the fiscal year 1986 Appropriation Act. We do not agree with this ruling and we expect to see an appeal.

We are extremely grateful for the time which this committee has allotted us for this presentation, and please accept our appreciation for the job you have done in these difficult times, maintaining sound water development programs that have proved their economic and environmental soundness.

Mr. Chairman, I wish to submit for the record a complete list of our delegation and copies of the individual testimony of the members of our group. Again, I thank you for allowing us to appear before this committee, and we urge your favorable consideration of our requests.

With these remarks, I would like to call on Mr. Rice who will speak briefly on the projects of specific concern to Trinity basin interests.

Mr. Rice?

Mr. RICE. Mr. Chairman, my name is I.M. Rice. I will briefly summarize the testimony of six witnesses, the full text of which appears in the comments you have been provided.

Board President Blake Gillen, Trinity River Authority, reports that impoundment began at Lake Joe Pool in January this year, and his organization supports the recommended appropriation of $9.7 million for continuation of this project.

With regard to the Wallisville Reservoir, Mr. Gillen testified that the Federal judge ruled just 2 weeks ago that the National Environmental Protection Act procedures were violated by Congress when it authorized the modified project in 1983. Judge Bue ruled that Congress had authorized a project based on incomplete NEPA documents. He stated, "Therefore, in 1983, Congress was not statutorily fully informed and could not make a well-considered decision as mandated by the very purpose of NEPA."

The Houston Chamber of Commerce, through its representative, former Deputy Attorney General Carol Dinkins, expressed the chamber's appreciation to Congress for getting Wallisville back into the court. She noted that congressional action has been invalidated by the judge who wrote, "In sum, the Congress simply exceeded its authority and infringed on the Corps' sphere while the NEPA process was underway." Thus, the judge declined to lift this 13-year-old injunction purely on procedural grounds, regardless of the merits of the project. The evidence before the court as to the merits was uncontested. That there is a need for the project, and that of all the alternatives which has been evaluated, this lake is the cheapest, quickest, and most environmentally sensitive plan to accomplish the dual Federal goals of providing water supply and preventing salt water intrusion.

We solicit continuing support of this committee for this project. The opponents are clearly seeking to kill, by procedural delays, what they cannot attack on the merits. Indeed, the Houston Post reported that an attorney for the plaintiffs was elated and predicted that Judge Bue's requirements for further review could kill the project.

Despite this, the local sponsors are prepared to continue their efforts to have Wallisville completed. The Corps of Engineers has expressed a $100,000 capability for design at Wallisville. We ask your support so that the design can continue while we try to sort out the legal remedies.

The president of the Lake Joe Pool Planning Council thanks this committee for its support of that project. Impoundment has just begun and pressure is already being felt from the public to expedite the recreational access. The proposed funding of $9.7 million will include money for recreational facility construction.

The cities of Dallas and Denton were represented by the mayor pro tem of Dallas, Annette Strauss. She reports that impoundment at Lake Roberts will begin in the summer of 1987 and the $3 million recommended for continued construction and the $136,000 for O&M are supported.

The sooner this project is completed, the sooner local interests will begin paying back the money that the Federal Government has already advanced.

TRINITY RIVER NAVIGATION PROJECT

Dredging the mouth of the Trinity River to reopen the 6-foot navigation channel up to the Port of Liberty, that is about 50 miles up, is more than 50-percent complete according to the port manager, Homer Smith. Several companies have announced plans to utilize the port when the channel work is complete. For the last 6 years, we have had no boats up because the channel is silted up. The ultimate goal is a 9-foot channel and the appropriation of $200,000 for advanced engineering and design for a study of this is recommended.

COOPER LAKE, TX

Last, North Texas Municipal Water District Manager Carl Riehn reported that since the budget estimate of $3.7 billion for Cooper Lake was prepared, the Corps has developed additional criteria which would allow them to expedite the project if an additional $3.1 million is made available. This project, as Senator Bentsen has stated, has suffered a 13-year delay due to a Federal district court ruling that was finally summarily dismissed by the court of appeals. It would be to the advantage of both the Federal Government and the local sponsors if this project could be quickly completed and the additional appropriation is recommended.

We all recommend the appropriation of $1.6 million for the Bureau of Reclamation's Bedias Creek study.

Sir, that completes my testimony.

Senator COCHRAN. I appreciate very much your being here. There is some question in our mind about whether there is an additional amount being requested by the Association for Cooper Lake.

Mr. Rice. Yes, sir; we support the $3.6 million, which is a budget estimate, plus the $3.2 million, which we understand the Corps of Engineers has reported, for a total of $6.8 million.

Senator COCHRAN. This is an increase, then, over the President's budget request?

Mr. Rice. Yes, sir; that is the same thing that Senator Bentsen said. That is the only increase we are requesting.

Senator COCHRAN. I just wanted to be sure we understood what was being requested of the subcommittee. Thank you very much for your testimony, and we appreciate your being here and helping us in the way you have.

Mr. Perry. Mr. Chairman, we thank you very much for listening to our tale of woe. Thank you very much.

Senator COCHRAN. It has been a pleasure seeing you.

[The statements follow:]

STATEMENT OF THE TRINITY IMPROVEMENT ASSOCIATION

MY NAME IS RUSSELL H. PERRY OF DALLAS, TEXAS, AND I AM PRESIDENT OF THE TRINITY IMPROVEMENT ASSOCIATION. I AM TESTIFYING BEFORE THIS COMMITTEE ON BEHALF OF INTERESTS FROM THROUGHOUT THE TRINITY RIVER BASIN OF TEXAS. LAST WEEK A DELEGATION NUMBERING 63 PERSONS, COMING FROM CITIES THROUGHOUT THE BASIN AND THE CITY OF HOUSTON, WHICH RECEIVES WATER FROM THE BASIN, TRAVELED TO WASHINGTON TO APPEAR BEFORE THE HOUSE APPROPRIATIONS SUBCOMMITTEE. THE MEMBERS INCLUDED COUNTY COMMISSIONERS, MAYORS, COUNCIL MEMBERS, CHAMBERS OF COMMERCE OFFICIALS, AND WATER MANAGERS. WE WERE UNABLE TO WORK OUT ARRANGEMENTS TO APPEAR BEFORE BOTH HOUSES ON THE SAME OR SUCCESSIVE DAYS. ACCORDINGLY, THE DELEGATES, WHO PAY THEIR OWN EXPENSES, CHOSE TO HAVE DR. RICE AND MYSELF TESTIFY FOR THEM TODAY. I WILL PRESENT OVERALL COMMENTS AND DR. RICE WILL SUMMARIZE THE TESTIMONY OF DELEGATES WHICH WAS PRESENTED IN PERSON TO THE HOUSE SUBCOMMITTEE.

WITH REGARD TO THE FISCAL YEAR 1987 BUDGET FOR CIVIL WORKS PROJECTS FOR THE CORPS OF ENGINEERS, WE NOTE THAT THE NATIONWIDE BUDGET REQUEST FOR A TOTAL OF $3.078 BILLION REPRESENTS AN INCREASE OF 32% OVER THE COMPARABLE FIGURE FOR FY 1986. BECAUSE THESE PROJECTS CREATE THE INFRASTRUCTURE ON WHICH OUR ECONOMIC GROWTH AND QUALITY OF LIFE DEPEND, WE SUPPORT THIS BUDGET EVEN IN TIMES OF DIRE BUDGET PROBLEMS. MOREOVER, MUCH OF THIS PROPOSED EXPENDITURE WILL BE PAID BACK AT INTEREST WHILE ALSO CONTRIBUTING TO THE ECONOMY IN THE FORM OF PAYMENT FOR SERVICES AND MATERIALS DURING PROJECT CONSTRUCTION. THE NET COST TO THE FEDERAL GOVERNMENT FOR THE FY 1987 CIVIL WORKS PROGRAM, AFTER OFFSETTING CHARGES AND CONTRIBUTIONS ARE TAKEN INTO ACCOUNT, WOULD BE $2.850 BILLION, UP ONLY 24% FROM FY 1986. THIS INDICATES A LARGER SHARE OF THE COSTS WILL BE BORNE BY LOCAL GOVERNMENTS OR BY USERS OF THE PROJECTS. BECAUSE OF THE FEDERAL BUDGET DEFICIT, WE SUPPORT THIS TREND IN COST SHARING.

AS YOU WILL NOTE IN THE SUMMARY OF REQUESTS WHICH APPEARS AT THE BEGINNING OF OUR WRITTEN TESTIMONY, OUR DELEGATION SUPPORTS THE BUDGET REQUEST FOR $60,585,000 FOR 14 PROJECTS, AS LISTED, FOR THE CORPS OF ENGINEERS AND $1,600,000 FOR ONE PROJECT FOR THE BUREAU OF RECLAMATION. THE BUDGET REQUEST FOR TRINITY BASIN PROJECTS IS DOWN SOME $16 MILLION AS COMPARED TO THE FY 1986 BUDGET REQUEST. THE DROP IS LARGELY BECAUSE OUR TWO MAJOR CONSTRUCTION PROJECTS, LAKE RAY ROBERTS AND JOE POOL LAKE, ARE APPROACHING COMPLETION. WE HAD HOPED THE BUDGET REQUEST WOULD HAVE CONTAINED MORE FUNDS FOR COOPER LAKE, WHICH WAS DELAYED FOR 13 YEARS BY FEDERAL COURT ORDER, CAUSING A HUGE ESCALATION IN COSTS AND HARDSHIP TO THE COMMUNITIES WHICH ARE STILL WAITING FOR THIS WATER. WE BELIEVE IT WOULD BE IN ORDER FOR THE COMMITTEE TO CONSIDER FUNDING THIS PROJECT TO THE REVISED CORPS CAPABILITY WHICH WAS NOT AVAILABLE AT THE TIME THE BUDGET REQUESTS WERE BEING FINALIZED. WE RECOMMEND THE FULL FUNDING ON THE BUREAU OF RECLAMATION'S BEDIAS CREEK INVESTIGATION. IF THIS PROJECT PROVES FEASIBLE, IT WILL GREATLY BENEFIT THE MIDDLE- AND LOWER TRINITY BASIN AND METROPOLITAN HOUSTON.

WE ALSO HAVE AN ADMINISTRATIVE REQUEST CONCERNING THE WALLISVILLE PROJECT. THE PROJECT REMAINS UNDER INJUNCTION BY A FEDERAL JUDGE WHO HAS RECENTLY DETERMINED THAT CONGRESS ACTED IMPROPERLY IN ITS ACTIONS ON THE FY 1985 APPROPRIATION ACT. WE DO NOT AGREE WITH THIS RULING WHICH WE EXPECT TO SEE APPEALED.

WE ARE EXTREMELY GRATEFUL FOR THE TIME WHICH THIS COMMITTEE HAS ALLOTTED US FOR THIS PRESENTATON. PLEASE ACCEPT OUR APPRECIATION FOR THE JOB YOU HAVE DONE, IN THESE DIFFICULT TIMES, MAINTAINING SOUND WATER DEVELOPMENT PROGRAMS THAT HAVE PROVED THEIR ECONOMIC AND ENVIRONMENTAL SOUNDNESS.

MR. CHAIRMAN, I WISH TO SUBMIT FOR THE RECORD A COMPLETE LIST OF OUR DELEGATION AND COPIES OF THE INDIVIDUAL TESTIMONY OF MEMBERS OF OUR GROUP.

AGAIN, THANK YOU FOR ALLOWING US TO APPEAR BEFORE THIS COMMITTEE; AND WE URGE YOUR FAVORABLE CONSIDERATION OF OUR REQUESTS.

WITH THESE REMARKS, I WOULD LIKE TO CALL ON DR. RICE WHO WILL SPEAK BRIEFLY ON PROJECTS OF SPECIFIC CONCERN TO TRINITY BASIN INTERESTS.

MY NAME IS I. M. RICE, OF IRVING, TEXAS, AND I AM EXECUTIVE VICE-PRESIDENT OF THE TRINITY IMPROVEMENT ASSOCIATION. I WILL BRIEFLY SUMMARIZE THE TESTIMONY OF SIX WITNESSES, THE FULL TEXT OF WHOSE COMMENTS YOU HAVE BEEN PROVIDED.

BOARD PRESIDENT BLAKE GILLEN, TRINITY RIVER AUTHORITY, REPORTS THAT IMPOUNDMENT BEGAN AT LAKE JOE POOL IN JANUARY THIS YEAR. TRA SUPPORTS THE RECOMMENDED APPROPRIATION OF $9.7 MILLION FOR CONTINUATION OF THIS PROJECT.

WITH REGARD TO WALLISVILLE RESERVOIR, MR. GILLEN ANNOUNDED THAT THE FEDERAL JUDGE RULED JUST TWO WEEKS AGO THAT NATIONAL ENVIRONMENTAL PROTECTION ACT PROCEDURES WERE VIOLATED BY CONGRESS WHEN

IT AUTHORIZED THE MODIFIED PROJECT IN 1983. JUDGE BUE RULED THAT CONGRESS HAD AUTHORIZED A PROJECT BASED ON INCOMPLETE NEPA DOCUMENTS. HE STATED, "THEREFORE, IN 1983, CONGRESS WAS NOT STATUTORILY FULLY INFORMED AND COULD NOT MAKE A WELL CONSIDERED DECISION AS MANDATED BY THE VERY PURPOSE OF NEPA."

THE HOUSTON CHAMBER OF COMMERCE, THROUGH ITS REPRESENTATIVE, FORMER DEPUTY ATTORNEY GENERAL CAROL DINKINS, EXPRESSED ITS APPRECIATION TO CONGRESS FOR GETTING WALLISVILLE BACK INTO FEDERAL COURT. HOWEVER, THAT CONGRESSIONAL ACTION HAS BEEN INVALIDATED BY THE JUDGE WHO WROTE AS FOLLOWS: "IN SUM, THE CONGRESS SIMPLY EXCEEDED IS AUTHORITY AND INFRINGED THE CORPS' SPHERE WHILE THE NEPA WAS UNDERWAY." THUS, THE JUDGE HAS DECLINED TO LIFT THE 13 YEAR OLD INJUNCTION SOLELY ON PROCEDURAL GROUNDS, REGARDLESS OF THE MERITS OF THE PROJECT. THE EVIDENCE BEFORE THE COURT WAS UNCONTESTED THAT THERE IS A REAL NEED FOR THE PROJECT, AND THAT OF ALL THE ALTERNATIVES EVALUATED, THIS LAKE IS THE CHEAPEST, QUICKEST AND MOST ENVIRONMENTALLY SENSITIVE PLAN TO ACCOMPLISH THE DUAL FEDERAL GOALS OF PROVIDING A WATER SUPPLY AND PREVENTING SALT WATER INTRUSION.

WE SOLICIT CONTINUING SUPPORT OF THIS COMMITTEE FOR THE PROJECT. THE OPPONENTS OF THIS PROJECT ARE CLEARLY SEEKING TO KILL BY PROCEDURAL DELAYS WHAT THEY CANNOT ATTACK ON THE MERITS. INDEED, ON MARCH 26,1986, THE HOUSTON POST REPORTED THAT AN ATTORNEY FOR THE PLAINTIFFS WAS "ELATED" AND "PREDICTED BUE'S REQUIREMENT FOR FURTHER REVIEW COULD KILL THE PROJECT." DESPITE THESE FACTS, THE LOCAL SPONSORS ARE PREPARED TO CONTINUE THEIR EFFORTS TO SEE WALLISVILLE COMPLETED. THE CORPS OF ENGINEERS HAS EXPRESSED A $100,000 CAPABILITY FOR DESIGN AT WALLISVILLE AND WE ASK YOUR SUPPORT SO THAT DESIGN CAN CONTINUE WHILE LOCAL SPONSORS SORT OUT THE LEGAL REMEDIES.

PRESIDENT GREG PATTON, JOE POOL LAKE PLANNING COUNCIL, THANKS THIS COMMITTEE FOR ITS SUPPORT OF LAKE JOE POOL. ALTHOUGH IMPOUNDMENT HAS JUST BEGUN, PRESSURE IS ALREADY BEING FELT FROM THE PUBLIC TO EXPEDITE RECREATIONAL ACCESS. THE PROPOSED FUNDING OF $9.7 MILLION WILL INCLUDE MONEY FOR RECREATIONAL FACILITY CONSTRUCTION.

THE CITIES OF DALLAS AND DENTON, REPRESENTED BY DALLAS MAYOR PRO-TEM ANNETTE STRAUSS, REPORTS THAT IMPOUNDMENT AT LAKE RAY ROBERTS IS SCHEDULED TO BEGIN IN THE SUMMER OF 1987. THE $34 MILLION RECOMMENDED FOR CONTINUED CONSTRUCTION AND $136,000 FOR O&M ARE SUPPORTED. THE SOONER THE PROJECT IS COMPLETED, THE SOONER LOCAL

SPONSORS WILL BEGIN PAYING BACK THE MONEY THE FEDERAL GOVERNMENT HAS ADVANCED.

DREDGING THE CHANNEL TO REOPEN THE SIX-FOOT NAVIGATION CHANNEL TO THE PORT OF LIBERTY IS MORE THAN 50% COMPLETE, ACCORDING TO PORT MANAGER HOMER SMITH, OF LIBERTY. SEVERAL COMPANIES HAVE ANNOUNCED PLANS TO UTILIZE THE PORT WHEN CHANNEL WORK IS COMPLETE. AN ACTIVE CAMPAIGN IS UNDERWAY TO ATTRACT ADDITIONAL USERS. THE ULTIMATE GOAL IS A NINE-FOOT CHANNEL AND THE APPROPRIATION OF $200,000 FOR ADVANCED ENGINEERING AND DESIGN IS RECOMMENDED.

NORTH TEXAS MUNICIAL WATER DISTRICT GENERAL MANAGER CARL RIEHN REPORTED THAT, SINCE THE BUDGET ESTIMATE OF $3.7 MILLION FOR COOPER LAKE WAS PREPARED, THE CORPS HAD DEVELOPED CRITERIA THAT WILL ALLOW THEM TO EXPEDITE THE PROJECT IF AN ADDITIONAL $3.1 MILLION IS MADE AVAILABLE. THIS PROJECT HAS SUFFERED A 13 YEAR DELAY DUE TO A FEDERAL DISTRICT COURT RULING THAT WAS FINALLY SUMMARILY DISMISSED BY THE APPEALS COURT. IT WOULD BE TO THE ADVANTAGE OF BOTH THE FEDERAL GOVERNMENT AND THE LOCAL SPONSORS IF THIS PROJECT COULD BE QUICKLY COMPLETED, AND THE ADDITIONAL APPROPRIATION IS RECOMMENDED.

BOTH THE TRINITY RIVER AUTHORITY AND THE HOUSTON CHAMBER OF COMMERCE SUPPORT THE APPROPRIATION OF $1.6 MILLION FOR THE BUREAU OF RECLAMATION'S CONTINUED STUDIES ON THE BEDIAS LAKE PROJECT.

MR. CHAIRMAN, UNLESS THERE ARE QUESTIONS, THIS COMPLETES MY TESTIMONY.

R. H. PERRY

MR. CHAIRMAN, ON BEHALF OF THE WHOLE DELEGATION, THANK YOU FOR ALLOWING US TO APPEAR BEFORE THIS COMMITTEE. AS WE STATED LAST YEAR, IN THESE TIMES OF BUDGET DEFICIENCIES, WE STAND READY TO BEAR OUR PART OF THE BURDEN. WE ASK ONLY THAT THE RETURN ON INVESTMENTS TO THE NATION'S ECONOMY AND THE SOUNDNESS OF FEDERAL PARTICIPATION IN TRINITY RIVER BASIN WATER RESOURCES DEVELOPMENT BE TAKEN INTO CONSIDERATION IN ARRIVING AT YOUR DECISIONS.

AS ALWAYS, IT HAS BEEN A PLEASURE TO APPEAR BEFORE YOU.

STATEMENT OF TRINITY RIVER AUTHORITY OF TEXAS

I am Blake Gillen of Corsicana, Texas. I am a member of the Board of Directors of the Trinity River Authority of Texas (TRA) representing Navarro County and currently serve as the Authority's President of the Board.

TRA endorses and requests your support for the funding recommended in the Administration's FY 1987 budget for those projects we support as local sponsors.

JOE POOL RESERVOIR

We are pleased to report to you that the Fort Worth District of the U.S. Army Corps of Engineers began the intentional impoundment of water in Joe Pool Lake on January 7, 1986. TRA supports the recommended FY 1987 appropriation of $9.7 million for the continuation of construction on this most important water project. As the water level rises, the public demand for recreation access to Joe Pool Lake will increase commensurately. Facilities to allow for access will only become available through appropriations made for 1987 and a few years beyond.

For the record, TRA is in the process of completing $4.8 million in Authority funded construction on an intake structure that will allow for the withdrawal, treatment and distribution of the water supply contained in Joe Pool Lake. The public will be able to benefit from Joe Pool Lake in terms of water supply, recreation and flood control with this Committee's continuing support for construction funding.

TRINITY RIVER PROJECT

A total of $200,000 has been recommended to enable the Corps' Fort Worth District to continue with advanced engineering and design on the navigation to Liberty component of the Trinity River Project. Navigation to Liberty is only possible today as the result of substantial federal dredging and snag removal efforts within the existing Trinity River channel. The completion of plans for the development of a multiple-purpose channel to the existing Port of Liberty would provide a blueprint for making navigation much more reliable as well as enhancing the entire region's economic prospects.

BEDIAS RESERVOIR

The need to evaluate additional water supplies to provide for future needs within the lower Trinity River basin and along the upper Gulf Coast of Texas becomes a more pressing reality every year. An appropriation of the recommended $1.6 million will enable the U.S. Department of the Interior's Bureau of Reclamation to continue their studies of a potential Bedias Lake. We urge your continuing support for this important federal study effort.

WALLISVILLE

Since our last appearance before you, we have participated in two weeks of trial in Federal District Court in Houston. Just ten days ago the Court ruled that NEPA procedures were violated by Congress when the Committee authorized the modified project in 1983. Judge Bue said in his 43 page opinion "...Congress, in 1983, authorized a project based on incomplete NEPA documents. Therefore, in 1983, Congress was not statutorily fully informed and could not make a well considered decision as mandated by the very purpose of NEPA."

The Corps of Engineers has expressed a $100,000 capability so design of the project can continue. We ask your support so that design can continue while we sort out the legal remedies.

OPERATIONS AND MAINTENANCE

The Corps of Engineers has requested, and TRA strongly endorses, appropriations for operation and maintenance funds in the following amounts for the projects we currently support as local sponsor:

Project	1987 Amount
Bardwell Lake	$ 743,000
Joe Pool Lake	351,000
Navarro Mills Lake	855,000
Wallisville Project	$ 205,000

CONCLUSION

The Authority again expresses its appreciation for the opportunity to testify before this body. TRA sincerely appreciates the federal dollars that remain available for the people of the Trinity River basin.

STATEMENT OF THE CITIES OF DALLAS AND DENTON, TX

Mr. Chairman and members of the committee, my name is Annette Strauss and I am mayor pro tem for the city of Dallas. Let me express my appreciation, as well as that of Mayor Starke Taylor and the city councils of Dallas and Denton, for your committee's continued support for the Ray Roberts Lake project.

My testimony today is presented in behalf of the cities of Dallas and Denton who are cosponsors of this project and have contracted with the Corps of Engineers for the design and construction of this project in order to obtain a water supply of 76 millions gallons per day. As you are aware, the Dallas-Denton-Fort Worth area has experienced rapid growth in the last few years. This project is a necessary means to service this growth and to provide a source of water supply, recreation, and flood protection for its citizens.

Since we last appeared before this committee in April 1985, construction of the dam and outlet works has progressed satisfactorily; and the Corps has advised us that deliberate impoundment is scheduled for July 1987.

The cities of Dallas and Denton request that President Reagan's 19878 budget allocation for the Ray Roberts Lake project be accepted and supported by this committee. Funding requested includes $34 million for continued project construction and $136,000 for operation and maintenance of the reservoir. With your approval of this funding, the project can remain on schedule and construction of the dam, road, and railroad relocations, design of recreational facilities, and land acquisition can continue. Any cutbacks could mean a delay in the timely completion of this project which could hamper us greatly in meeting the water needs of our region. Also, as you know, when the project is completed, the local sponsors will begin repaying, with interest, the money advanced by the Federal Government. Any delay in this project will, of course, delay that repayment.

I urge your careful consideration of the administration's budget request for full funding for the Ray Roberts Lake project. I look forward to your continued cooperation in this important matter.

Thank you very much

STATEMENT OF THE JOE POOL LAKE PLANNING COUNCIL, TEXAS

Mr. Chairman and members of the subcommittee, my name is Greg Patton and I am speaking today as president of the Joe Pool Lake Planning Council. We are an ad hoc citizen group that has supported Joe Pool since before it was authorized for construction by Congress in 1965. As a result of the foresight demonstrated by this committee, the planning council's job is almost complete.

The Corps of Engineers began the intentional impoundment of water on January 7, 1986, and the Joe Pool project looks more like a lake every time it rains. Other major Joe Pool developments include the rapidly approaching completion of construction by the Trinity River Authority and the Midlothian Water District on raw water intake structures that will ultimately allow the public to make beneficial use of the lake's water supply.

The public's demand for recreational access to Joe Pool Lake has already begun and we have been informed that the first public facilities to allow for this access will not be available until the middle of 1988. The proposed appropriation of $9.7 million for fiscal year 1987 will include money for recreation facility construction. We fully anticipate that as the lake level rises, pressure for access will increase commensurately. We, therefore, strongly support the proposed appropriation for fiscal year 1987 as the only means of relieving this pressure.

We again thank you for your attention to our requests and ask for your continuing support through the conclusion of construction on this most important Federal water project.

STATEMENT OF THE PORT OF LIBERTY, TX

Mr. Chairman and committee members, my name is Homer Smith and I currently serve as manager of the Liberty-Dayton Area Chamber of Commerce and director of the Port of Liberty. Today, I am the spokesman for the city of Liberty and the lower Trinity River region in general.

Our Port of Liberty is located at Trinity River mile 45 and has been useable only during periods of extremely high river rises for the last 8 years. You demonstrated faith in our request and appropriated the necessary funds to dredge our river. For this we are deeply appreciative.

We are happy to state that, through cooperation and communication between all entities, excellent results have been achieved. The progress to date would not have been possible without tireless efforts by this committee, the House and Senate, the Corps of Engineers, the Trinity River Authority, the Chambers-Liberty Counties Navigation District, the city of Liberty and the Port of Liberty. Many leading local businessmen and landowners took an active part in securing the necessary easements. Never before in the history of this river project have so many easements been required and secured. Most active in this effort was former U.S. Senator Price Daniel.

The Corps of Engineers issued a contract in August to dredge the 6-foot channel. The dredging is over 50 percent complete at this time. We are happy to report that Mississippi Chemical Co. has already been utilizing the port. Because of this waterway we have been advised of the availability of future customer tonnage on the river. Some of these are Mississippi Chemical, Exposaic Wire Co., National Pipe and Tube, and local aggregate material suppliers. We have also begun to spread the word about our facilities to potential industries throughout the United States and some foreign countries.

Our work has just begun. We have dedicated ourselves to keeping the channel open and it is our hope that the Corps will strive to routinely provide the resources to assure an open channel for commercial traffic.

The Galveston District of the Corps of Engineers has advised us that sufficient funds are available to complete present dredging, so a line item appropriation for this purpose will not be required for fiscal year 1987. However, funds for this most essential purpose will be required in future years if this commercial lifeline is to remain viable for industry.

Our ultimate goal is for the construction of a 9-foot multipurpose channel to Liberty. We request your support for the $200,000 appropriation for advanced engineering and design efforts on the navigation to Liberty.

We also continue our support for the Wallisville project in the amount of the Corps expressed capability of $100,000 for continued design. When a favorable court decision is received, we ask that the Corps of Engineers be funded so that construction of this much needed project can begin.

For all of us on the lower Trinity, please accept our sincere thanks for your continued interest and support.

STATEMENT OF THE HOUSTON CHAMBER OF COMMERCE, TX

Mr. Chairman and committee members, my name is Carol Dinkins of Vinson & Elkins, Houston, TX. I am testifying today as the representative of the Houston Chamber of Commerce.

Houston currently looks toward the Trinity River as a major source of surface water and will be making even greater demands on this source in the forseeable future.

The long-delayed Wallisville project at the mouth of the Trinity River will play a strategic role in our ongoing efforts against land subsidence and the resulting flooding and property damage. The use of surface water as an alternative to the pumping of well water is a major tactic in the struggle against subsidence.

In 1983, this committee assisted with the authorization of the modified Wallisville Lake project and we appreciate that assistance. As you have heard today, however, that congressional action has been ruled invalid by a Federal district judge who wrote as follows: "In sum, the Congress simply exceeded its authority and infringed the Corps' sphere while the NEPA process was underway." Thus, the judge has declined to lift the 13-year-old injunction solely on procedural grounds, regardless of the merits of this project. The evidence before the court was uncontested that there is a real need for the project and that of all the alternatives evaluated, this lake is the cheapest, quickest, and most environmentally sensitive plan to accomplish the dual Federal aims of providing a water supply and preventing salt water intrusion.

We solicit the continuing support of this committee for the project. The opponents of this project are clearly seeking to kill by procedural delays what they cannot attack on the merits. Indeed, on March 26, 1986, the Houston Post reported that an attorney for the plaintiffs was elated and predicted Bue's requirement for further review could kill the project. Despite these facts, the local sponsors have informed the chamber that they are prepared to continue their efforts to see Lake Wallisville completed.

The Houston Chamber of Commerce recognizes the imminent need for a joint Bureau of Reclamation/Trinity River Authority study of a Bedias Lake in the mid-Trinity River basin area to augment further development of our water resources.

Preliminary estimates put the water supply yield of this lake as high as 100 million gallons per day. Water generated by a Bedias Lake could readily be transferred into any or all of three separate watersheds. This would make possible the delivery of raw water to either the east, north, or west side of the massive Houston metropolitan area, a major strategic consideration in itself. While Houston has no firm current commitment to a Bedias Lake at this time, the potential is such that we strongly support this feasibility study.

STATEMENT OF CARL W. RIEHN, COOPER LAKE, TX, PROJECT

Mr. Chairman and committee members, my name is Carl W. Riehn. I am the general manager and executive director of the North Texas Municipal Water District. Today I represent the local sponsors on the Cooper Lake, TX, project, which includes the city of Irving, Sulphur River Municipal Water District, and the North Texas Municipal Water District. These entities serve approximately 850,000 people in the State of Texas with potable drinking water.

As you are aware, the Cooper Lake project was originally authorized in 1955 and based on local contracts for 100-percent repayment for waer supply cost the project was placed under construction in 1968. In 1971, after the passage of the National Environmental Policy Act in 1969, a Federal injunction stopped the project for lack of an environmental impact statement. The project stayed captive to the Federal courts from March 1971 to July 1984. The people in the area never objected to the project and always supported the need for flood control, water supply, and water recreation on the south Sulphur River. Only an environmental group opposed to the development of all water resource projects in Texas went to the courts to stop the construction of the project. The project is still vitally needed for all of the Federal and local purposes included. The only difference is that the cost will be substantially higher. But, each year the area grows and water supply and flood-protected land become more valuable. Therefore, it is urged that this committee and the Congress work with the U.S. Army Corps of Engineers to expedite this project that has been delayed for over 15 years.

It is our understanding that in the President's budget $3.7 million is allocated to continue the Cooper Lake project; however, that the Fort Worth District Corps of Engineers has developed a criteria that will allow them to expedite the project if an additional $3.1 million can be made available. This information was not available during preparation of the President's budget. We realize the financial strain on the Federal Government to reduce the deficit; however, the building, or investment in the natural resources of this Nation, has been one of our greatest strengths bringing many returns to the citizen. The additional cost burdens brought about by the long delay, as well as the burden of having to develop emergency facilities to meet short-term needs, should be considered. We hope that you will strongly recommend that the additional $3.1 million be added to the President's appropriation for the Cooper Lake project for a total of $6.8 million. Thank you.

Trinity River Association—Summary of Fiscal Year 1987 Requests

On behalf of the Trinity River of Texas delegation, the Trinity Improvement Association recommends the support of the Congress for the following projects of the Corps of Engineers and the Bureau of Reclamation in considering the Energy and Water Development Appropriations Bill for Fiscal Year 1987.

FUNDING REQUESTS:

PROJECT		BUDGET REQUEST
CORPS OF ENGINEERS		
SURVEYS, ADVANCE ENGINEERING & DESIGN		
TRINITY RIVER CHANNEL TO LIBERTY, TX	$	200,000
CONSTRUCTION		
COOPER LAKE	$	3,700,000
JOE POOL LAKE	$	9,700,000
RAY ROBERTS LAKE	$	34,000,000
OPERATIONS & MAINTENANCE		
BARDWELL LAKE	$	743,000
BENBROOK LAKE	$	1,080,000
DENISON DAM - LAKE TEXOMA	$	4,304,000
GRAPEVINE LAKE		1,523,000
JOE POOL LAKE	$	351,000
LAVON LAKE	$	1,895,000
LEWISVILLE DAM	$	1,893,000
NAVARRO MILLS LAKE	$	855,000
RAY ROBERTS LAKE	$	136,000
WALLISVILLE LAKE	$	205,000
TOTALS	$	60,585,000
U. S. BUREAU OF RECLAMATION		
GENERAL INVESTIGATIONS		
BEDIAS CREEK	$	1,600,000

ADMINISTRATIVE REQUESTS

An administrative request on Wallisville will be provided to the Committee prior to mark-up, if needed.

TRINITY IMPROVEMENT ASSOCIATION
1986 CONGRESSIONAL HEARINGS
DELEGATE NAMES AND ADDRESSES

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ADDITIONAL SUBMITTED STATEMENT

Senator COCHRAN. The subcommittee has received testimony from the Texas Water Development Board, which will also be made part of the record at this point.

[The statement follows:]

STATEMENT OF THE TEXAS WATER DEVELOPMENT BOARD

U.S. ARMY CORPS OF ENGINEERS INVESTIGATIONS AND PROJECTS IN THE BRAZOS RIVER BASIN OF TEXAS

The Texas Water Development Board respectfully submits project testimony regarding Corps of Engineers projects located in the Brazos River Basin of the State of Texas.

Responsibility for statewide planning and development of water resources rests with the Texas Water Development Board. The Board also provides financial assistance to eligible political subdivisions of the State for the planning and construction of water, wastewater treatment, and flood-control projects. The Board has been designated as the State agency to cooperate with appropriate agencies of the Federal government and with other State and local agencies in matters relating to water resource development. In order to assure orderly development of the State's water resources, the Board has formulated and adopted a comprehensive Statewide "Texas Water Plan", which under Texas statutes serves as a flexible guide for present and future water development in Texas.

The plan indicates the need for specific projects, including alternatives, to meet the State's water needs and to provide for National, State, and regional economic growth and stability. The Water Development Board maintains a continuing planning program in order to address changing economic, social, hydrologic, and environmental conditions in the State. The projects addressed in this statement are considered as integral elements in the State's present and future water resource development program.

SAN GABRIEL RIVER PROJECT

The authorized plan of improvement for the San Gabriel River consists of a system of three lakes in Williamson County in the San Gabriel watershed of the Brazos River Basin. Lakes Granger, Georgetown, and South Fork were authorized by the Flood Control Acts of 1952 and 1962. These lakes will provide storage for flood control, municipal and industrial water supply, and recreational benefits and are an important unit in the Corps' Brazos River Basin system of multiple-purpose water resource development projects. Deliberate impoundment of water in Lakes Granger and Georgetown was initiated early in 1980, and already almost all of the water supply to be provided by these lakes is committed under contract to meet municipal and industrial water needs in the vicinity of the lakes and in areas downstream. The Corps of Engineers has determined that South Fork Lake is not economically feasible due to high real estate costs in the area. Because of the infeasibility of South Fork Lake, the Corps of Engineers is re-evaluating Lake Granger to determine the feasibility of increasing the water supply storage in Lake Granger.

The Board supports the President's request for an appropriation of $600,000 to complete the re-evaluation study of the San Gabriel River Project during FY 1987.

BRAZOS RIVER AND TRIBUTARIES PROJECT

The President's budget recommends $200,000 be provided during FY 87 to perform a reconnaissance-level investigation of water-related problems in the Leon, Lampasas, and Little River Basins of the Brazos River Basin, Texas. The Board supports the President's recommendation for funding in FY 87.

OPERATION AND MAINTENANCE OF EXISTING PROJECTS

The Board supports appropriations to the Corps of Engineers for operation and maintenance of the following projects during FY 1987. Aquilla Lake ($441,000); Belton Lake ($2,476,000); North San Gabriel Dam and Lake Georgetown ($919,000); Granger Lake ($1,174,00); Procter Lake ($942,000); Somerville Lake ($1,985,000); Stillhouse Hollow Lake ($1,035,000); Waco Lake ($1,431,000); and Whitney Lake ($1,850,000).

CONCLUDING COMMENTS

The Texas Water Development Board sincerely appreciates this opportunity to provide testimony to the Committee and most respectfully urges the appropriation of funds as requested in order to accomplish properly coordinated, timely, and orderly development of these urgently needed water resource projects in the Brazos River Basin of the State of Texas.

U.S. ARMY CORPS OF ENGINEERS INVESTIGATIONS AND PROJECTS IN THE TRINITY RIVER BASIN OF TEXAS

The Texas Water Development Board respectfully submits project testimony regarding Corps of Engineers projects in the Trinity River Basin of the State of Texas.

Responsibility for statewide planning and development of water resources rests with the Texas Water Development Board. The Board also provides financial assistance to eligible political subdivisions of the State for the planning and construction of water, wastewater treatment, and flood-control projects. The Board has been designated as the State agency to cooperate with appropriate agencies of the Federal government and with other State and local agencies in matters relating to water resource development. In order to assure orderly development of the State's water resources, the Board has formulated and adopted a comprehensive Statewide "Texas Water Plan", which under Texas statutes serves as a flexible guide for present and future water development in Texas.

The plan indicates the need for specific projects, including alternatives, to meet the State's water needs and to provide for National, State, and regional economic growth and stability. The Water Development Board maintains a continuing planning program in order to address changing economic, social, hydrologic, and environmental conditions in the State. The projects addressed in this statement are considered as integral elements in the State's present and future water resource development program.

LITTLE FOSSIL CREEK, HALTON CITY, TEXAS

In 1982, the City of Halton City, Texas requested a flood damage protection study on Little Fossil Creek which is located in an urbanized area northeast of Fort Worth, Texas. The City has indicated an understanding of the current cost-sharing policy as it pertains to feasibility studies by the Corps of Engineers and is willing to act as local sponsor. The President's budget recommends $225,000 be provided in FY 87 to initiate a reconnaissance-level study of ways to protect this flood-prone area. The Board supports the President's recommendation for the Little Fossil Creek flood damage protection study.

RAY ROBERTS AND JOE POOL LAKES

Ray Roberts Lake (formerly Aubrey Lake), jointly sponsored by the Cities of Dallas and Denton, and Joe Pool Lake (formerly Lakeview Lake), sponsored by the Trinity River Authority of Texas, are included in the President's budget for 1987 in the amounts of $34 million and $9.7 million, respectively. Both reservoirs are high priority projects because of rapid regional growth which is resulting in a need for additional water supply, flood control and recreation facilities which the lakes will provide. The Board requests the Committee's support for the budgeted amounts recommended by the President during FY 1987 in order to continue scheduled construction of these projects.

TRINITY RIVER, CHANNEL TO LIBERTY, TEXAS

The President's budget recommends $200,000 be provided during FY 87 to continue advanced engineering and design studies on the Trinity River, Channel to Liberty, Texas. The Board supports the President's recommendation for funding in FY 87.

OPERATION AND MAINTENANCE

The Board supports funding to the Corps of Engineers for operation and maintenance during FY 1987 for the following projects located in the Trinity River Basin; Bardwell Lake ($743,000); Benbrook Lake ($1,080,000); Grapevine Lake ($1,523,000); Joe Pool Lake ($351,000); Lavon Lake ($1,895,000); Lewisville Dam ($1,893,000); Navarro Mills Lake ($855,000); Ray Roberts Lake ($136,000); and Wallisville Reservoir and Saltwater Barrier ($205,000). These amounts are included in the President's budget for FY 1987.

CONCLUDING COMMENTS

The Texas Water Development Board requests Committee support of these regional water resource development needs. The Board most respectfully urges the appropriation of funds as requested in order to accomplish the coordinated, orderly development of urgently-needed water resources projects in the Trinity River Basin in the State of Texas.

BUREAU OF RECLAMATION INVESTIGATIONS AND PROJECTS IN THE STATE OF TEXAS

The Texas Water Development Board respectfully submits project testimony regarding Bureau of Reclamation projects in the State of Texas.

Responsibility for statewide planning and development of water resources rests with the Texas Water Development Board. The Board also provides financial assistance to eligible political subdivisions of the State for the planning and construction of water, wastewater treatment, and flood-control projects. The Board has been designated as the State agency to cooperate with appropriate agencies of the Federal government and with other State and local agencies in matters relating to water resource development. In order to assure orderly development of the State's water resources, the Board has formulated and adopted a comprehensive Statewide "Texas Water Plan", which under Texas statutes serves as a flexible guide for present and future water development in Texas.

The plan indicates the need for specific projects, including alternatives, to meet the State's water needs and to provide for National, State, and regional economic growth and stability. The Water Development Board maintains a continuing planning program in order to address changing economic, social, hydrologic, and environmental conditions in the State. The projects addressed in this statement are considered as integral elements in the State's present and future water resource development program.

BEDIAS LAKE PROJECT

The Board's planning work indicates that the Houston-Galveston metropolitan area will continue to grow rapidly and will therefore need additional firm surface-water supplies in the immediate future in order to avoid further reliance on ground-water resources. The area continues to experience serious land subsidence problems due to heavy ground-water pumpage. Bedias Lake has been identified as a potential water supply project for the area and has been included in the State's plan for development since the middle 1960's. The Lake has been included as an element of a "continuing" plan to supply water for municipal and industrial purposes in the lower Trinity River Basin. The future water requirements of the metroplex in excess of needs which can be met by local supplies can be partially met from Bedias Lake.

The President has included in his FY 1987 budget proposal $1,600,000 to complete a four-year study program by the Bureau of Reclamation to investigate the hydrologic and economic feasibility of Bedias Lake and to initiate work on a draft planning report and environmental impact statement. The future water supply needs of the Lower Trinity River Basin are increasing and we strongly urge your consideration of the amount included in the President's budget for FY 1987 for the Bedias Lake study.

SAN JACINTO RIVER PROJECT

The President's budget recommends $120,000 be provided in FY 87 to complete feasibility studies of two potential reservoir sites in the San Jacinto River Basin.

The San Jacinto River Basin and neighboring areas continue to grow rapidly. Much of the area has depended upon ground water to satisfy its municipal and industrial water needs in the past. The result has been a significant lowering of water levels within the area and severe land subsidence. Subsidence problems are extremely serious in that subsidence has aggravated local area drainage and flooding problems and also subjects the people and property of this region to tidal surges during hurricanes.

The Board's projections indicate that additional surface water supplies will be needed in the mid-1990's in order to meet the growing demands for municipal and industrial water. Thus, the Board supports the President's recommendation for funding in FY 87 to complete the feasibility studies on the San Jacinto River Project.

NUECES RIVER PROJECT

A total of $1,420,000 is included in the President's FY 87 budget for construction of recreation facilities and fishery management activities for the Nueces River Project. The Board supports the President's recommendation for funding in FY 87.

PALMETTO BEND PROJECT

A total of $150,000 is included in the President's FY 87 budget for completion of construction of the Palmetto Bend Project. The Board supports the President's recommendation for funding in FY 87.

SMALL PROJECT LOAN PROGRAM

The Board supports the President's recommended funding during FY 87 to the following small projects: Delta Lake Irrigation District ($1,000,000); Hidalgo County Irrigation District No. 1 ($3,800,000); and Hidalgo County Irrigation District No. 2 ($2,500,000).

CONCLUDING COMMENTS

The Texas Water Development Board sincerely appreciates this opportunity to provide testimony to the Committee and most respectfully urges the appropriation of funds as requested in order to accomplish properly coordinated, timely, and orderly development of these urgently needed water resource projects in the State of Texas.

WALLISVILLE LAKE, TX—OPPOSITION

Senator COCHRAN. Without objection, we will also place in the record statements submitted by the Lone Star Chapter of the Sierra Club and the Houston Audubon Society in opposition to the Wallisville Lake project.

[The statements follow:]

STATEMENT OF THE LONE STAR CHAPTER OF THE SIERRA CLUB

On behalf of the Lone Star Chapter of the Sierra Club I am submitting the enclosed information to your subcommittee concerning funding for the Wallisville Dam project. We are sorry we cannot attend your hearings but I am sure you and your members will understand the problems of a volunteer organization and the requirement to earn a living which keeps us from attending committee meetings in Washington, D.C. We request that these comments be placed in the official hearing record for the FY 1987 appropriations' bill.

Our first two enclosures concern why the Wallisville project is not cost efficient or needed. There are alternatives, all much cheaper, to this project. The water provided will be dirty, weed-choked, and miniscule in amount. We urge you to strongly consider these fact sheets when looking at whether more taxpayer's dollars, during soaring budget deficits and required Gramm-Rudman budget cuts, need to be thrown away after the already wasted millions for this unnecessary project. In particular note our third enclosure which shows that the existing three water supply lakes for the City of Houston can be operated more efficiently which would eliminate the need for the Wallisville Dam.

Our second major concern is that on March 25, 1986 Federal District Court Judge Carol O. Bue handed down a ruling of immense importance with reference to the Wallisville Dam and the actions of this subcommittee and committee.

Judge Bue ruled that the Corps of Engineers and Congress did not meet the requirements of the National Environmental Policy Act in the Wallisville case.

In Judge Bue's own words, "... the requirements of NEPA have never been met in any respect. In sum, Congress simply exceeded its authority and infringed the Corps' sphere while the NEPA process was under way.", "There has been no good faith pursuit of the environmental assets and liabilities of Wallisville by the Corps for Congress to consider.", and finally that, "... this Court is compelled to conclude that bad faith existed on the part of the Corps.". It is imperative that this appropriations committee and subcommittee take careful cognizance of Judge Bue's decision, a copy of which is enclosure IV, as its results were partially precipitated by the actions of this committee and subcommittee.

As a result the Lone Star Chapter of the Sierra Club would like to make several requests:

1.) That the information submitted with this letter be studied carefully and with full attention by the subcommittee and full appropriations committee.

2.) That the information also be circulated to other members of Congress so that the full Congress is informed on this matter.

3.) That no further action be taken by the appropriations committee on the Wallisville Dam project until a complete legal resolution occurs both in court and under NEPA and Corps procedures as set out under the law.

4.) That the Lone Star Chapter be kept informed by the subcommittee and the full committee of any future proposed actions on the Wallisville Dam project so that we can input and participate fully and express our concerns.

Finally the Lone Star Chapter of the Sierra Club wishes to make it clear that we oppose unalterably the completion of the Wallisville Dam project due to its environmental destructiveness and economic infeasibility.

We appreciate this opportunity to express our views and concerns and extend the invitation to all members of the subcommittee and full committee to come to Houston, Texas and visit onsite the beautiful Wallisville area. Please contact us if you have any questions at all. We look forward to hearing from you soon on this important matter.

[ENCLOSURE I]

THE ECONOMIC AND ECOLOGIC SIGNIFICANCE OF THE GALVESTON BAY SYSTEM AND THE TRINITY RIVER

Robert W. McFarlane, Ph.D.
Ecologist

The Galveston Bay System (Galveston, Trinity, East and West Bays) is the most productive estuary on the Texas coast. Its importance is clearly reflected in the commercial and sports fisheries which it supports. The average commercial harvest amounts to more than 20 million pounds of fishes, crabs, oysters and shrimp worth $44 million at the dock annually. This fishery creates 2100 jobs and $20 million of income for the immediate region. In addition, sport fishermen spend $4 million, land 650,000 pounds of fish, and create 255 jobs worth $1.5 million in additional income each year.

How does the Galveston Bay System differ from other Texas estuaries? What ecologic features of this estuary interact to create such a perfect environment for fish and shellfish? The principal feature of Galveston Bay is that it is the only **humid** bay system along the Texas barrier island coast; it has lower temperatures and higher precipitation than any other Texas estuary. The amount of precipitation which falls on the bay exceeds the amount of water which evaporates from the surface. More importantly, the Trinity and San Jacinto Rivers together provide the largest freshwater inflow of any Texas drainage basin. The effect of this abundant freshwater can be readily seen in the swamp forests and the freshwater and brackish marshes which line the waterways, the rice fields which dominate the surrounding agricultural landscape, and the vegetation of the bay itself. Other Texas estuaries feature submerged grassbeds where several species of grass are rooted in the bottom but do not emerge above the surface of the water. Galveston Bay is characterized by emergent grasses, standing in permanent water but rising high above the water surface in full sunlight. These large expanses of grass along the edge of the bay provide the plant material which fuels the food chain, and protective habitat where juvenile shrimp and fishes grow rapidly while shielded from their natural enemies.

The large input of freshwater from the surrounding environment affects the salinity of Galveston Bay water. The Gulf of Mexico contains 34 parts per thousand (ppt) of "salt" (that is, 3.4%). If no freshwater were to enter Galveston Bay for an extended period, the bay waters would come into equilibrium with the Gulf waters due to the daily tidal interchange of waters. But salinities in the bay are much lower, and highly variable throughout the year, due to local and distant rainfall, tropical storms, etc. River water entering the bay has zero salinity. Large areas surrounding the river mouths may range from 5 to 10 ppt, while much of Trinity Bay and upper Galveston Bay may reach 15 to 20 ppt. West Bay and East Bay, closest to the Gulf passes, may reach 25 to 30 ppt salinities. The key feature of Galveston Bay is that its waters contain substantially less salt than other Texas estuaries, which are increasingly salty as you travel south and west down the coast toward arid regions.

The Trinity River provides 55 percent of the freshwater that enters the Galveston Bay ecosystem, while the San Jacinto River supplies only 16 percent. These rivers provide two other ingredients which are essential to the continued health and productivity of the bay - sediment and nutrients. Sediments carried downstream via river transport are important to coastal bays because they provide inorganic nutrients and the raw materials that create and maintain the delta areas where the brackish and freshwater marshes grow. Other nutrients are produced by decomposition of terrestrial plant material throughout the drainage basin, continually washed into the river systems by rainfall runoff. These organic nutrients are essential to the growth and development of many animals in the complex estuarine food chains. Any development which interferes with the transport of these **essential raw materials - freshwater, sediments, and nutrients** - will eventually contribute to the degradation of the Galveston Bay ecosystem.

Adverse impacts on the Galveston Bay ecosystem can result from many types of developments and human activity. For example, both Buffalo Bayou and the San Jacinto River empty into the Houston Ship Channel. The artificially deepened channel, and the spoil banks which line the channel, prevent the river and bayou water entering the bay from spreading out, slowing down, and depositing the suspended sediment. As a result, there is very little delta and marsh area in this region. The proposed widening and deepening of the Houston Ship Channel will aggravate this situation, and also permit more dense saltwater from the Gulf to penetrate farther into the bay, raising salinity levels and threatening the valuable oyster seed beds near the channel. Housing developments along the shoreline continually nibble away at shoreline wetlands, destroying valuable habitat and food resources for marine life in the bay. The proposed Lake Creek, Cleveland, and Bedias reservoirs will reduce the flow of freshwater, sediment, and nutrients into upper Galveston Bay.

The Trinity River is the key tributary entering Galveston Bay. The river basin extends to Dallas and Fort Worth, encompasses 3.2 million people, and produces 5.6 million acre-feet of water in an average year. The amount of surface water already authorized or claimed for diversion and use amounts to 5.3 million acre-feet. None of this water is designated to flow into the bay. There are already 27 major reservoirs in existence in the drainage basin, and 4 more are under construction. Under the 1985 Texas Water Plan none are required to provide any freshwater inflow to Trinity Bay. At present 5.4 million acre-feet of water typically reach the mouth of the river; an absolute minimum of 3.2 million acre-feet will be required to maintain seafood productivity in the Galveston Bay ecosystem. Lake Wallisville will further reduce the flow of freshwater and trap sediments and nutrients. During extended periods of low river flow, no water will pass Lake Wallisville. It is not difficult to envision the day when all of the claimants to Trinity River water remove their full share and the river runs dry.

It is imperative that the Galveston Bay System be viewed holistically as a complete ecosystem. Each potential impact must be judged for its contribution to the cumulative impact resulting from all human activity affecting the estuary. The bay is presently beseiged from all sides with numerous environmental insults. It must not be allowed to follow Chesapeake Bay and become an ecological disaster.

[ENCLOSURE II]

THE WALLISVILLE COALITION
FACT SHEET FOR THE WALLISVILLE LAKE PROJECT

HISTORY OF THE PROJECT

The Wallisville Lake, Texas project was authorized by Congress in 1962 for the **PURPOSES** of SALINITY CONTROL, NAVIGATION, WATER SUPPLY, FISH AND WILDLIFE ENHANCEMENT, and RECREATION. The project's **LOCAL SPONSORS** were the Trinity River Authority, the City of Houston, and the Chambers-Liberty Counties Navigation District.

Construction was begun in 1966. Passage of the National Environmental Policy Act (NEPA) forced the Corps of Engineers to prepare an environmental impact statement (EIS) for the project. The 1970 Draft EIS was inadequate. In 1971, the Sierra Club, Houston Audubon Society, and others filed a lawsuit opposing the project until a comprehensive EIS was prepared. The District Court found that the Wallisville project was an integral part of the Trinity River Project (a barge canal to Dallas, authorized in 1965) and enjoined further construction, then 72% complete. The Appeals Court remanded the requirement tying it to the Trinity River Project in 1974 but left the injunction in place pending completion of a Final or Supplemental EIS.

The Corps then conducted extensive environmental studies in 1975 and discovered that the authorized 19,700 acre project would cause substantial environmental damage and degradation. The Corps redesigned the project and, in 1981, issued a Post Authorization Change Report (PACR) and Final EIS. The PACR recommended reducing the size of the project to 5,600 acres by relocating the dam. It also found that fish and wildlife resources would not be enhanced and that losses of $989,000 could be expected for each and every year that the project was in operation. Furthermore, the PACR found that no navigation benefits would result from the project due to insufficient river traffic. The PACR also recommended that the excess public lands be retained in public ownership.

The PACR and Final EIS were submitted to the Corps' Bureau of Engineers for Rivers and Harbors (BERH) for approval. The BERH found that the PACR had overestimated water benefits and failed to meet the Appeals Court decree for the Final EIS. Furthermore, since two of the five original purposes (navigation, fish and wildlife enhancement) could not be met, and the project had been substantially modified and reduced to 28% of the authorized project size, the new Recommended Project should be returned to Congress for reauthorization. This latter step was crucial because the reauthorized project would have to use 7 5/8%, rather than 3 1/8%, interest discounting and the local sponsors would have to pay for 70%, rather than 1 %, of the project costs. In 1982 the Corps issued a Supplemental Information to the Post Authorization Change Report (SIPACR) which claimed new calculations found both navigation benefits and fish and wildlife enhancement. This was accomplished by substantially modifying the No-Action Alternative, a required EIS component which estimates future conditions if the project is not constructed. The PACR No-Action Alternative was abandonment of the partially constructed dam and transfer of project land to the Texas Parks and Wildlife Dept. for fish and wildlife management. The SIPACR No-Action Alternative was construction of the lake and dam by local sponsors regardless and transfer of excess land to private developers for subdivision and resale.

In 1985 the Corps asked the District Court to lift its injunction since the Congress had reauthorized the project. In 1986 the District Court left in injunction in force and directed the Corps to coordinate the SIPACR with the federal agencies and resubmit the project to Congress for proper reauthorization.

PROJECT BENEFITS

WATER SUPPLY - Claim: The Wallisville Dam will provide 140 million gallons per day of urgently needed new water for the City of Houston.

Fact: Seventy-eight percent of the water which flows past the Wallisville Dam site is released from Lake Livingston, where it is already available to the City water supply. The only water to be "saved" is that water currently released from Lake Livingston to control salinity near the river mouth. The claim does not indicate how many days per year this 140 MGD will be saved. Lake Livingston must release up to 1000 CFS of water as needed to control salt water intrusion. The irrigation season extends from March 1 to September 30. The Corps of Engineers has claimed that 1100 CFS is needed; the Trinity River Authority has reported to the Federal Energy Regulatory Commission that only 500 CFS are required. Data from the US Geological Survey station at Romayor, the lowermost river gage on the Trinity River, indicate flows less than 1000 CFS, which includes irrigation and industrial water to be diverted, are common during the irrigation season. Average monthly flows less than 1000 CFS have occurred during five months, and less than 500 CFS during two months, of the irrigation season. It appears that the amount of "new" water which Wallisville will generate has been grossly overstated. Furthermore, there is no delivery system to transport the water from Wallisville to those areas of Houston where it is most needed. Additionally, the City has no immediate plans to begin construction of the Luce Bayou interbasin diversion project, its principal means to transport Lake Livingston water from the Trinity River to Lake Houston.

Alternatives: (1) Construct a single-purpose water reservoir upstream at River mile 18 which the Corps has identified at the best site on the lower Trinity River for water supply purposes. (2) Transport existing but unutilized water from the Toledo Bend Reservoir to Houston via the Sabine River and a canal system.

NAVIGATION - Claim: Barge traffic on the Trinity River above Wallisville amounts to 114 round trips to Moss Bluff and 28 round trips to Liberty each year.

Fact: The Texas Gulf Chemicals facility at Moss Bluff, which formerly shipped liquid sulfur downriver, was permanently closed in 1980 when the sulfur resource was depleted. The facility has been dismantled and sold and there are no plans to resume sulfur mining at this location. On February 23, 1986, the Liberty Vindicator published a photo of the first barge in nearly two years to reach Liberty. Thus potential barge traffic has been grossly overestimated and there are no navigation benefits to be derived from the Wallisville Lake Project, as the PACR correctly indicated.

SALINITY CONTROL - Claim: Annual benefits of $801,000 from salinity control.

Fact: Salinity control is the only project purpose with merit. However, the benefits of salinity control have been overstated. Neither the Corps nor the Trinity River

Authority have estimated the amount of water necessary for salinity control in an average year. During 1978, a bona fide drought year with rainfall in the Trinity River Basin only 69% of normal, 261,000 acre-feet of water worth $860,000 as agricultural water, was released from Lake Livingston to control salinity. However, during years of above normal rainfall very little, if any, water is needed, and then for relatively brief periods.

Alternative: Construct salt water barriers across the river at optimum sites, as is presently done on the Sabine and Neches Rivers.

FISH AND WILDLIFE ENHANCEMENT - Claim: The SIPACR claims benefits of $122,000 per year from keeping excess project lands away from private developers.

Fact: The U.S. Fish and Wildlife Service has testified that nothing could be done to enhance the extremely high productivity of the existing Wallisville area as fish and wildlife habitat. Any development will degrade these resources which depend on adequate freshwater inflow of the Trinity River and freedom to move between freshwater, brackish water, and saltwater habitats. The estimated losses of nearly $1 million per year are conservative and probably underestimated. Fish and wildlife enhancement cannot be claimed as a purpose of the project.

RECREATION - Claim: The SIPACR claims recreational benefits of $625,000 per year.

Fact: Wallisville Lake will not be cleared of its vegetation and timber before flooding. It will be maintained at a 2 foot depth until the water supply is needed, perhaps by 1997, and then it will be maintained at its maximum 4 foot depth for the remainder of the project's life. This shallow, weed-choked wading pond will favor the development of "rough fish" rather than the more desirable game fish species, according the the Corps' own projections. Neither swimming nor water skiing will be possible. The slow death of the cypress swamp will reduce its aesthetic and recreational value to all users.

Alternative: Permit the substantial existing recreational use to continue as it will benefit far more persons to utilize the area without degrading the recreational resource.

ENVIRONMENTAL CONSEQUENCES

The existing Wallisville Lake area supports an exceedingly rich biological community. Ninety-five percent of the fishes and shellfishes are of estuarine or marine origin. It is an invaluable nursery area for shrimp, crabs and finfish. The freshwater, nutrients, and sediments transported by the river are essential for the health and continued growth of the marshes which harbor and support these organisms. The Texas Department of Water Resources has estimated that 3.2 million acre-feet of freshwater inflow and three floods per year are necessary to maintain this biological productivity. This flow has failed to materialize during 15 years since 1925. The Wallisville Dam will seriously reduce the flow of water and frequency of floods. Even during wet years it will reduce the lateral flow of water through the adjacent marshes, impeding the import and export of nutrients in these areas. The Corps has admitted that during drought years river flow past the dam will be exceedingly low or nonexistent for periods as long as several months. This could have drastic effects upon the commercial and sports fisheries of Trinity Bay and the Galveston Bay System.

*** * * THE WALLISVILLE COALITION * * ***
A GROUP OF HOUSTON-AREA CIVIC ORGANIZATIONS
OPPOSED TO THE CONSTRUCTION OF THE WALLISVILLE LAKE PROJECT

Lone Star chapter of the Sierra Club
Houston Audubon Society
Houston Sportman's Club
League of Women Voters of Houston
Galveston Bay Conservation and Preservation Association
Outdoor Nature Club

[ENCLOSURE III]

The Importance of Operating Procedures in Determining Yield of Water Sources Available to the San Jacinto Basin, Texas

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SUMMARY and ABSTRACT

This paper examines the increases in yield available to the San Jacinto Basin (which includes the City of Houston) by joint operation of existing sources of supply. Recent reports detailing the need for additional raw water supply have taken the total available to the city as the sum of the independent yields of its four main sources; ground water, Lake Houston, Lake Conroe, and Lake Livingston. The yields are 337,000 acre feet per year (337 Kafy), 145 Kafy, 98 Kafy, and 1288 Kafy respectively, for a total of 1868 Kafy. The monthly simulation analysis on which this paper is based indicates that the combined yield of all the facilities, operating jointly, may be substantially larger, perhaps by 15 percent or more.

This result is particularly important because two recent reports on water supply in the area have used the sum of the independent yields of the facilities to determine water supply needs for the area. The operating rules which produce the increase in yield are quite simple. Reservoir water is drawn first from Lake Houston, then Lake Livingston, then Lake Conroe. The priority order is derived from comparison of the ratio of storage to drainage for each of the reservoirs. Those with the least storage per drainage are most likely to spill, and are thus drawn down first.

Ground water is pumped at a minimum rate of 150 Kafy (assumed to represent that portion of future demands which can be met by ground water alone), and a maximum of 600 Kafy (the maximum historical pumping rate). Average groundwater pumpage is not allowed to exceed 330 Kafy (the dependable long term yield) for any 10 year period, in an attempt to eliminate further subsidence. Ground water is pumped at the minimum rate unless storage in Lake Livingston falls below levels specified in a simple rule curve. The levels vary by month of the year. When this occurs, groundwater pumping is increased to attempt to reduce withdrawals from the reservoirs, and thus raise Lake Livingston back to the levels specified by the rule curve.

The potential for augmenting yield using high flow skimming on the Brazos river was also examined. Additional yields of 200 Kafy or more seem feasible, even if large minimum flows (for prior rightholders or environmental enhancement) must be left instream.

The operations described in this paper are for the future, not the present. Current demands in the San Jacinto Basin are on the order of 822 Kafy, and thus the conveyance, treat-

ment, and distribution facilities are wholly inadequate for demands on the order of 2000 Kafy. At present, deliveries from Lake Livingston are limited due to lack of conveyance and treatment facilities. Care must be taken that the expansion of the conveyance, treatment, and distribution systems allows for joint operation of supplies. Otherwise, the potential for increased yields will be lost.

Developing fully practical plans for the expansion and operation of Houston's water supply is far beyond the scope of this paper. The preliminary operating policies were designed only to demonstrate the feasibility of increasing yield through joint operation of supplies. Expansion of Houston's conveyance, treatment, and distribution facilities, combined with reasonable operating policies, can supply a large portion of the city's needs for additional supply in the 21st century.

INTRODUCTION

The work described below is the result of an initiative taken by the Water Science and Technology Board (WSTB) of the National Research Council. The WSTB proposed to organize an advisory committee to assist the Federal Agencies involved in Water Resources Management (particularly the Bureau of Reclamation and the Army Corps of Engineers). The focus of the effort was to be improving the operations and management of existing facilities.

While the WSTB's proposal was never formally accepted, it did lead directly to an agreement between the Bureau of Reclamation (BOR) and the author's employer, the Interstate Commission on the Potomac River Basin (ICPRB), whereby the author was placed on temporary transfer to the BOR for the express purpose of exploring alternative operating and management procedures for existing BOR facilities. This is the second in a series of reports resulting from that agreement.

The author would like to express his gratitude to the ICPRB and the BOR for allowing him to pursue this work and the WSTB for its continuing support. In particular, thanks are due Walter Lynn, Yacov Haimes, and Steve Parker of the WSTB, Brent Paul of the BOR, and Paul Eastman of ICPRB for their encouragement and assistance. The author gratefully acknowledges Emily Dowdy of the Southwest Region, BOR, for her assistance in data organization, programming, and analysis. The author also thanks Jerry Wright, Planning Officer of the Southwest region for his advice and encouragement. All responsibility for errors of omission or commission remain with the author.

SETTING

The city of Houston and surrounding areas have historically relied on ground water for their water supply. Growth in the area, explosive at times, has led to pumping of the ground water in excess of natural recharge. This in turn has caused dramatic subsidence, with the loss of land along the coast. Groundwater withdrawals peaked in the early 70's, falling to 463 Kafy in 1980. 1/ This still represents some 38 percent more than the estimated "safe yield" of the aquifer, which is 337 Kafy. 2/

In addition to ground water, the area has three major reservoirs for water supply. Lake Houston is the oldest of the three, with a yield of 145 Kafy from about 100 thousand acre feet (100 Kaf) of storage. Lake Conroe (owned by the San Jacinto Authority) has a yield of 98 Kafy from 430 Kaf of storage. Releases from Conroe flow into Lake Houston where they are withdrawn for treatment. Lake Livingston, on the Trinity River, has a yield of 1290 Kafy. It is a very large lake, with some 1750 Kaf of storage. 4/

The Houston area currently uses some 822 Kafy of water annually. Demands are expected to grow substantially in the first quarter of the 21st century, to perhaps more than 2000 Kafy. Facilities for conveying, treating and distributing the requisite amount of surface water to meet such demands simply do not yet exist in the Houston area. In fact, conveyance of water from Lake Livingston to the Houston area is limited to about one quarter of the safe yield. Because the analyses in this paper deal with demands so much larger than current demands, current conveyance, treatment, and distribution system constraints are ignored. It is assumed that these will be provided as needed.

METHODS AND RESULTS

The objective of the analyses described below was not to precisely define a rule for the joint operation of the sources available in the San Jacinto Basin and Houston area nor to precisely define yields under any operating scheme. Rather, approximate yields under "reasonable" independent and joint rules were compared to demonstrate the potential for increasing yield by coordinating the operations of all sources. This is particularly important because two recent reports on water supply in the area have used the sum of the independent yields of the facilities to determine water supply needs for the area. 2,3/

Independent Yield

To that end, the analysis began by running single reservoir safe yield analysis on Lake Houston, Lake Conroe, and Lake Livingston to establish independent yields. Monthly inflows (1941-1979) were supplied by the BOR Southwest Region from their ongoing San Jacinto study. Reservoir storage (active pool only) data and monthly evaporation data came from the same source. Evaporation was computed as the monthly rate times the full pool surface area. A limit of 8 percent of storage was put on evaporation to avoid negative storages when the reservoirs were nearly empty; This had no practical effect on results.

To avoid questions of ownership in all the reservoirs, the analysis considers the yield of the source for all users. The independent safe yields were in excellent agreement with the yields published in the BOR preliminary findings report for the San Jacinto study, and are given in table 1. The sum of the independent yields of the surface supplies is 1533 Kafy.

A safe yield for the Gulf Coast aquifer within the San Jacinto basin has been developed by the Texas Department of Water Resources. That yield is 337 Kafy. The "yield" of an aquifer is never more than an estimate, and in this case the task of estimating is conpounded by the extension of the aquifer into developed areas beyond the boundaries of the study area. Nonetheless, 337 Kafy was used as a basis for comparing joint and independent yields in an internally consistent manner as described below. The sum of the independent yields of surface and groundwater supplies is 1870 Kafy.

Surface Yield With Joint Operation

A computer program which simulated the joint operation of the surface water reservoirs was developed. The new simulation used the same inflows, evaporation, and reservoir storages as the independent safe yield analysis, but rescheduled the withdrawals. Where the independent yield analysis assumed constant withdrawals from each reservoir, the new simulation released water in priority order; first from Lake Houston, then from Lake Livingston, and finally from Lake Conroe. The priority order was based on the relative probability that each reservoir would refill and spill before the others, thus "losing" water.

The demands placed on the reservoirs varied month-to-month in the same manner as current demands in the San Jacinto Basin. The percent of average annual demand used in each month was supplied by the BOR (Table 2). These percentages were multiplied by an average annual demand to give monthly demands. Small reserves were allowed in the reservoirs to meet local demands and other uses. Small minimum withdrawals were also set for each of the reservoirs. Neither the local demands, reserve storages, nor percentage variation of monthly demands, have a significant impact on system yield.

The demands which could be met by the system, using the joint operating scheme, exceeded the sum of the independent surface yields by about 125 Kafy, an increase of about 8 percent, to a total of 1660 Kafy. The difference is due, in large part, to the disparity in the length of the critical periods for Lake Houston (1 year) and Lake Livingston (4 years). Because of its size, Lake Livingston dominates the joint operating scheme. Its storage is more than large enough to augment flows to Lake Houston during its one critical year. As a result, the critical period on Lake Houston changes from one year to four years. The flows from the San Jacinto basin are completely captured for that period. The average flow in the basin during the 4 year period is substantially larger than the minimum 1 year flow, accounting for the difference in yield.

Yield With Joint Operation of Surface and Ground Water

Next, a provision for incorporating a groundwater pumping rule was made. Again, instead of pumping at a constant rate, equal to the safe yield, provision was made for changing the pumping rate based on levels within the reservoirs. A minimum pumping rate of 150 Kafy (monthly equivalent) was set (arbitrarily) to provide water for those who could not be economically served by surface water. A maximum pumping rate of 600 Kafy (monthly equivalent) was also set. This corresponds approximately to the historical maximum pumping which occurred in the early 1970's (it has no other basis). Finally, the average pumpage over any consecutive 10 year period was constrained to be less than 337 Kafy, the "safe yield". This was done in an attempt to keep the pumping from causing subsidence due to aquifer drawdown.

The simulation set the pumping rate based on the storage in Lake Livingston. Simulated storage in Lake Livingston was tested against a target storage for that month of year (a rule curve, figure 1). If simulated storage fell below the rule curve, groundwater pumping was increased from minimum to maximum. When storage rose above the curve, groundwater pumping was again set to the minimum level. The rule curve is set to balance:

1) The desire to minimize pumping during non-critical droughts, and

2) The need to start pumping early enough during critical droughts to maximize total pumping during the drought without exceeding the maximum monthly pumping rate.

Inclusion of ground water in the joint operating scheme added some 560 Kafy to the yield of the system, bringing it to 2220 Kafy. If 560 Kafy is looked at as the effective yield of the ground water in the system, it represents an increase over the independent yield of the ground water by more than 60 percent. Total system yield (2220 Kafy) is more than 10 percent greater than the sum of the independent yields. Average groundwater pumping over the 39 year record is only 245 Kafy (less than three quarters of the independent yield). But, the rule is successful in pumping at the maximum rate (600 Kafy) during nearly the entire critical period without violating the constraint that average pumping not exceed the safe yield for any consecutive 10 year period.

Brazos Flow Skimming

Finally, provision for augmenting supply by flow skimming of the Brazos River was added to the simulation model. Historical flows for the Brazos at Richmond were used as the basis for the simulation. These flows do not account for planned depletions, however. In a coarse attempt to account for such depletions, minimum flows were set before pumping could occur. These flows varied month-by-month. For the results reported below, the minimum flows were set at a

300 Kafy monthly equivalent (about 267 mgd) for October - April, and 900 Kafy monthly equivalent (about 800 mgd) May - September. A maximum pumping rate was also set, 240 Kafy monthly equivalent (214 mgd) for the results below.

The operating rule for pumping was quite simple. Water was pumped (up to the maximum rate) whenever it was available in the river (flows in excess of minimums), unless inflows to the reservoirs were sufficient to:

1) Meet all demands with minimum groundwater pumping, and

2) Fill all the reservoirs.

The availability of a 240 Kafy monthly equivalent (214 mgd) flow skimming facility, operated as described, increased the system yield by 180 Kafy, some 75 percent of the facility size. Because the reservoirs are often full, and because there are periods during which flows are not available in the Brazos, average pumping over the period was only 188 Kafy. Increasing the minimum flows to 900 Kafy monthly equivalent (800 mgd) year round decreased the incremental yield to about 50 percent of the size of the facility.

Flow skimming in the Brazos acts to increase yield in a manner inverse to the way in which the rule for ground water works. Where the groundwater pumping rule attempts to use reservoir storage to leave water in the ground for later use, when inflows are small; Brazos pumping makes additional water available by reducing draft on the reservoirs. It then becomes available for use when flows in the Brazos are too low for pumping.

DISCUSSION AND CONCLUSIONS

Because of the approximate nature of the assumptions on flows, demands, and particularly groundwater yields, the above analysis does not provide firm estimates of the yield, or increases in yield that might be had from joint operations of supplies available to the San Jacinto Basin. It does, however, show that relatively large increases in yields are possible. System operation should be a major concern in the planning, design, construction, and operation of all future water supply facilities in the San Jacinto Basin.

The operating rules presented above must be modified before they are practical. In particular, the constraints imposed by local demands and existing facilities must be taken into account. In the case of ground water, location and size of individual wells, and a much more realistic aquifer response, must be considered. Developing practical rules for a given set of facilities will require much more detailed simulation than presented above, including fairly detailed groundwater simulation. This analysis shows that the benefits to be derived from joint operating rules will likely exceed the costs by orders of magnitude.

Potential for increases in yield from joint operation of facilities far exceeds the potential for increases in yield from additional storage in the San Jacinto Basin. Because the length of the critical period is 4 years, and because Lake Livingston will continue to dominate the system, 4 Kaf of storage will provide less than 1 Kafy of additional yield (with evaporation the ratio is likely closer to 5 to 1). The same is true for storage in the Trinity basin above Lake Livingston. This is the marginal return on storage and will decrease as additional storage is built. A 100 Kaf reservoir would thus have an incremental yield of only 25 Kafy.

It should not be concluded that additional storage in the San Jacinto basin is unnecessary. A reservoir in the basin might serve as a reregulating lake for pumpage from the Brazos and/or as a source for a new treatment plant located at a higher elevation in the basin. Such a plant could serve much of the area by gravity -- a decided advantage. Flood control benefits may also accrue. The water supply benefits from new projects in the San Jacinto basin will depend heavily on how they can be used to improve the total system operation rather than only on their independent yield.

In conclusion, the water supply facilities already available to the San Jacinto Basin can reliably supply substantially more than the sum of their independent safe yields. This can only occur, however, if the conveyance, treatment, and distribution facilities, which must be constructed to utilize the water available, are planned and designed to take full advantage of the potential for joint operation.

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TABLE 1

SAN JACINTO PROJECT ANALYSIS

February 28, 1985

INDEPENDENT SAFE YIELD SUMMARY

Lake Houston	145,000
Lake Conroe	98,000
Lake Livingston	1,290,000

Surface Subtotal	1,533,000
Groundwater	337,000

Sum of Safe Yields	1,870,000

JOINT YIELD SUMMARY

	Total	Increase
Surface Yield (Houston, Conroe, Livingston)	1,660,000	127,000
Surface plus Groundwater	2,220,000	350,000

Yield from New Storage	approx. 1,000 acft/yr per 4,000 acft storage
Yield from Pumping Brazos	50-75% of pipe size for yields to approximately 200,000 acft/yr.

STATEMENT OF THE HOUSTON AUDUBON SOCIETY

I anticipate that by this time, Representative Jack Brooks of Texas has appeared before your subcommittee in support of the Corps' of Engineers' Wallisville Lake Project in his district. I am submitting this letter to present our opposition to this project for reasons which will be given herein. I request that you include my letter as part of the written record of your subcommittee hearings.

The Wallisville Lake project was authorized by Congress in 1962 and construction commenced in 1966. With the passage of NEPA in 1969 the Corps prepared an environmental impact assessment in 1971. As was commonplace in the early years of NEPA, this assessment was grossly inadequate. This caused the Houston Audubon Society, Sierra Club and other environmental groups to file a lawsuit requiring an adequate assessment. The U.S. District Court in Houston enjoined the Wallisville project from further construction in 1973. This decision was upheld by the U.S. Circuit Court in 1974, which instructed to Corps to prepare a better assessment of potential environmental damage. The Corps conducted environmental studies in 1975-76 which demonstrated that the project poised a significant threat to the biological integrity of the lower Trinity River and Galveston Bay.

Wallisville Lake was designed as a 19,700 acre multi-purpose reservoir to provide water supply, salinity control, navigation, recreation, and fish and wildlife enhancement benefits. In 1981 the Corps issued a Post Authorization Change Report and Final Environmental Impact Statement (PACR) which recommended that the 4 foot high by 33,000 ft. long dam, which had been constructed before the court injunction, be abandoned and the project be modified to a 5,600 acre configuration. This PACR report correctly stated that no navigation benefits would result from the project, which also would cause an annual loss of $989,000 in fish and wildlife resources, rather than an enhancement. In wending its way through the Corps' internal hierarchy, the Corps' Bureau of Engineers of Rivers and Harbors refused to approve the project, citing its loss of 2 of its 5 purposes, major modification, substantial environmental damages, and failure to comply with the Circuit Court's dictates. Additionally, the Corps' Office of Chief Engineer refused to reauthorize the project on advice of its own counsel. In 1982 the Corps issued a Supplement to the PACR which, through the magic of creative accounting, claimed to find both navigation and fish and wildlife enhancement benefits, thus preserving the original discount rate and local sponsor cost-sharing agreements. Congress reauthorized the project in appropriations measures in both 1983 and 1985. In 1985 the Corps asked the District Court to lift its injunction.

On March 25, 1986, the District Court ruled that the injunction imposed in 1973 should remain in force until full compliance with the National Environmental Policy Act (NEPA) has been effectuated. The Court noted that this ruling has national significance because "standard NEPA procedures were not followed by the Corps or the Congress ... and ... to permit this form of agency and legislative legerdemain to succeed is virtually to sound the death knell of NEPA." The Court has directed the Corps to "complete the full processing of the 1981 EIS-PACR and process the 1982 SIPACR [Supplemental Information to PACR] through all aspects of the NEPA administrative review including the obtaining of agency and individual input so that a bona fide record of decision ultimately can be presented to the Congress for its consideration." The Court noted "curiously, not a single thesis advanced [by the Corps] can withstand legal analysis" and "this Court is compelled to conclude that bad faith existed on the part of the Corps." The Court also found "that Plaintiffs have raised a substantial environmental issue." Thus, while Congress attempted to reauthorize the project in 1983 and 1985, it did so on the basis of unprocessed, raw data and that "the 1983 Authorization and Appropriation Bill with respect to Wallisville violates NEPA, since the Congress never received from the Corps what the statute impels -- a hard look in good faith at the environmental consequences of a proposed action by the agency to permit a reasoned choice among different courses of action."

The Court was moved to wonder why this case has managed to drag on some many years, since 1971, without resolution -- "it certainly was anticipated when the most recent hearings commenced that the evidence would reflect a thorough and detailed NEPA review consistent with the dictates of the Fifth Circuit Court of Appeals. What has emerged instead is a tortuous, time consuming procedural record of the interaction of the Corps and Congress on Wallisville. It is replete with instances of Corps' bad faith which flouts as well the environmental safeguards built into NEPA for Congress to adhere to in passing environmental legislation. These are not minor matters ... They go to the very core and meaning of NEPA. ... One wonders why, if the professed benefits are so obvious, a simple course of action which complied with NEPA was not followed to the letter, thereby eliminating all of this fruitless waste of time and legal expense." The U.S. Fish and Wildlife Service, The National Marine Fisheries Service, the Texas Parks and Wildlife Service, and the environmentalists involved with this litigation can all answer that latter question. The potential environmental impacts of this project are so great that Wallisville cannot survive an objective, thorough and honest NEPA assessment. The potential benefits to be derived from construction of this lake consistently have been vastly overstated and exaggerated. Two of the project's five stated purposes absolutely cannot be justified - navigation and fish and wildlife enhancement; a third, recreation, has been grossly overestimated. The remaining two, water supply and salinity control, are very questionable and open to debate.

The President and Congressman Brooks have asked that you appropriate $205,000 for operation and maintenance of Wallisville. The project was enjoined when only 72 percent complete in 1973. There is absolutely nothing concerned with the project that operates and nothing that must be maintained. Previous appropriations have been for "navigation". These are all a ruse to keep a project that has been enjoined from any work whatsoever for 13 years from lapsing to a state where it could be deauthorized. The 4000 members of the Houston Audubon Society ask that you refrain from perpetuating this charade and, in this era of ballooning deficits, save the taxpayers $205,000 at the same time.

We thank you for your kind consideration of this issue. We will be pleased to assist the Subcommittee in any further deliberation you may desire. We urge you to strike one small blow for economy by deleting this unneeded, unnecessary, and unessential item from the 1987 budget.

YAZOO BACKWATER PUMPING PLANT, MISSISSIPPI—OPPOSITION

Senator COCHRAN. Our next witness listed on the agenda is the Mississippi Wildlife Federation, represented by Mr. James Carroll. Is Mr. Carroll here or any other representative of the Mississippi Wildlife Federation? [No response.]

Then, without objection, the prepared statement of the Mississippi Wildlife Federation will go into the record at this point when received.

[The statement follows:]

STATEMENT OF THE MISSISSIPPI WILDLIFE FEDERATION

The Mississippi Wildlife Federation is unalterably opposed to the Yazoo Backwater Pumping Project as presently authorized and proposed. Our historical opposition to the project is evidenced by the attached statement delivered in 1982 at a public hearing held at Rolling Fork, Mississippi. Our concerns in this matter have increased as the economy and the conditions in the affected area have changed.

The loss of wetlands and bottomland hardwoods has become a national concern, and Congress has reaffirmed its commitment to environmental quality often in recent years. To proceed with this project would be to deny the validity of that commitment. The installation and operation of the project would cause irretrievable losses of important wildlife and fishery habitat and significantly reduce critical over-wintering migratory waterfowl habitat.

The largest percentage of the claimed benefits from increased flood protection is derived from intensffication and expansion of agriculture into the lower-lying areas of the basin. The Farm Bill, existing Executive Orders, and current legislative mandates call for the protection of wetlands and bottomland hardwood forests and a halt to agricultural expansion on fragile lands such as wetlands and a further retirement from agriculture on marginal croplands. Basing almost 80 percent of the benefits from a project on intensification and expansion of agriculture on poorly drained cropland at a time when overproduction is a main cause of the poor health of the farm economy is illogical.

The Federation is sympathetic to the human suffering caused by the frequent flooding of the lower delta, much of which is caused by previous Federal flood control projects. The Mississippi Wildlife Federation, in conjunction with the National Wildlife Federation, has developed and is refining alternative plans to relieve that personal suffering, while at the same time protecting the invaluable natural resources of the area at a significantly reduced cost to taxpayers.

We recognize the serious economic conditions our country faces. We also see the need to protect our environment and to forego the wasteful spending of taxpayers' money. Federal efforts should now concentrate on mitigation for past losses and protection of existing structures.

The Federation will be discussing our compromise proposal with our Congressional delegation in the near future. We hope that they, this subcommittee, and all interested parties can work together to secure approval for this proposal in the best interest of our national and state economies and our invaluable natural resources.

COMMENTS OF THE MISSISSIPPI WILDLIFE FEDERATION ON THE YAZOO AREA BACKWATER LEVEE PROJECT AND THE YAZOO AREA PUMP STUDY

The Mississippi Wildlife Federation opposes the installation of the proposed Yazoo Area Pump Project. We specifically disagree with the projected benefits, costs, apalling energy costs, interest rate applied to borrowed money, mitigation plans proposed, and assessment of future environmental effects, both with and without the project.

Although we are concerned with flooding of cropland and hardships caused thereby, we are obligated by our very presence to be concerned about the continuing loss of environmental quality, wildlife habitat, and water quality caused by the Corps projects. In many cases the projects seem to only provide channels, levees, and subsequent habitat losses, and never fully implement the environmental protection aspects of the projects.

We are convinced that the Corps has not complied with laws, executive orders, rules and regulations, and other policy guidelines that should have been followed in plan formulation. Actually, there is considerable divergence from these, so that only those which benefit the plans of the Corps of Engineers seem to have been fully accepted.

Some of our specific concerns are these:

1. The lack of commitment by the Corps to fulfill long-overdue mitigation requirements caused by previous parcels of the Yazoo Basin Plan. We do not have any real faith in the Corps to properly plan or install the mitigation features proposed in the plan.

2. This project will result in continued serious losses to fish and wildlife habitat, including direct losses, induced clearing, loss of wetlands, and reduced waterfowl areas as wetlands are drained.

3. The economics of the project plan are slanted to inflate benefits and reduce costs. Assumed cotton and soybean yields are high and projected yields are also high. For instance, cotton yields are suggested to be 4.85 bales per acre and soybean yields are suggested to be 97 bushels per acre by year 2039. On the other hand, the interest rate used under economic criteria for plan formulation is only 2½%--many of us would like to borrow money at that rate.

4. There are 3.9 million dollars in annual damages at present. With the pumps in place it will cost 3.099 million dollars annually just for electricity. This is an awesome use of energy during a time when all Americans are tightening their "energy belts". The gains hardly offset the energy costs.

5. The obvious deterioration in water quality downstream was not really addressed. This is required of point sources of pollution in the 1977 Clean Water Act, and it will be necessary for the Corps of Engineers to obtain National Pollutant Discharge Elimination System permits for future discharges into the waters of the United States, pursuant to Section 402 of the Clean Water Act.

6. This project is part of a massive flood control effort in the Yazoo Basin which has been installed project by project. The Corps has been responsible to mitigate wildlife and fishery losses in each project, as much of these losses are directly attributable to Corps actions. Nevertheless, these enormous past losses have not been mitigated and the Corps chooses not to mitigate these, as required, in direct violation of the 1958 Fish and Wildlife Coordination Act.

7. We cannot agree that this project complies with the purpose and intent of Executive Orders 11990 and 11998 protecting wetlands and floodplains from further losses, degradation and encroachment. Actually, the large majority of benefits from this project are brought about by intensification of the floodplain, not by reduction of flooding on lands currently in production of agricultural crops.

8. The so-called Enrironmental Quality Plan and the required nonstructural or mitigation plan do not satisfy the requirements of NEPA, as all alternatives proposed contain pumps or a pump. This is in violation of NEPA, the 1974 Water Resources Development Act, CEQ, and Executive Orders 11998 and 11990.

The Mississippi Wildlife Federation regrets that we continually have to chide any agency as large, well-staffed, and competent as the Corps of Engineers to properly fulfill their appropriate role in formulating comprehensive, logical, cost effective, environmentally sensitive plans to address area problems. We simply do not believe that this approach has been taken in formulating this plan.

NEW YORK, NEW JERSEY, AND PENNSYLVANIA NAVIGATION PROJECTS

STATEMENTS OF:

WILLIAM HARRISON, SECRETARY-TREASURER, JOINT EXECUTIVE COMMITTEE FOR THE IMPROVEMENT OF THE PHILADELPHIA PORT AREA

JAMES KIRK, DIRECTOR, PORT DEVELOPMENT, PORT AUTHORITY OF NEW YORK AND NEW JERSEY

ROBERT PETTIGREW, EXECUTIVE DIRECTOR, SOUTH JERSEY PORT CORP.

CAPT. PAUL IVES, JR., JOINT EXECUTIVE COMMITTEE

JAMES R. KELLY, PRESIDENT OF THE DELAWARE RIVER PORT AUTHORITY

RICHARD COFFEE, ASSOCIATED WITH THE PORT OF WILMINGTON, DE

KENNETH B. LA FEVER, NEW JERSEY DEPARTMENT OF COMMERCE AND ECONOMIC DEVELOPMENT

Senator COCHRAN. Our next witness on the agenda is Mr. William Harrison, who is the secretary-treasurer of the Joint Executive Committee for the Improvement of the Philadelphia Port Area; and Mr. Robert Pettigrew, executive director of the South Jersey Port Corp. We also understand that Capt. Paul Ives, Jr., may be here representing the Joint Executive Committee. If he is here, he can come forward. I appreciate all of your attendance at this hearing.

I understand your testimony relates to Delaware River navigation projects.

INTRODUCTION OF WITNESSES

Mr. Ives. Thank you very much, Mr. Chairman.

My name is Paul Ives, Jr., and I am chairman of the Joint Executive Committee. I have with me at the table this morning, since we represent a tri-State region of major ports bordering on the Delaware Bay and River, representatives from the three States are on my immediate right, Mr. Robert L. Pettigrew, who is executive director of the South Jersey Port Corp.; Mr. James R. Kelly, who is president of the Delaware River Port Authority, and Mr. Richard Coffey, who is director of marketing with the Port of Wilmington, DE.

We are a somewhat unique port complex in that we have major ports—the ports of Camden, Gloucester in New Jersey; Morrisville and Philadelphia, PA; and Wilmington, DE, who occasionally are in competition with each other, but we all share one overriding interest that we have among our own navigation projects.

In addition to that, we share the navigation projects of the Delaware River, Philadelphia to the sea, and Philadelphia to Trenton, the 40-foot-deep water project.

I don't intend to take very much time on the statement. We will submit that for the record. I would just like to take the little remaining time that we have and introduce some of the other gentlemen that have come down with us to represent port interests. We have with us Capt. James Wallace, who is vice chairman of the executive committee; Mr. William A. Harrison, executive director of the Ports of Philadelphia Maritime Exchange; Mr. Lewis Caccese, a professional engineer who is our technical adviser; Capt. Sam Schellenger, chairman of the Mariners' Advisory Committee; Mr. Rob Wonderling, manager, the PENJERDEL Council; Mr. Marvin Robinson, who is commissioner of the Philadelphia Navigation Commission; and Capt. Jack Sparks, president of the Pilot Association for the Bay and River Delaware.

ECONOMIC BENEFITS

I just merely would like to say that our Delaware River ports handled nearly 64 million tons of international cargo and 30 million tons of domestic cargo in the past year. This generated over $1 billion into the tri-State region.

In addition to this, we had a dramatic increase in coal exports that was made possible largely by, for the first time in many years, adequate maintenance dredging of our channel, whereby we were able to take the large coal ships out of the port, and our coal exports rose from 1.2 million tons in 1984 to over 5 million tons in 1985. This, in addition to the 5 million tons of automobiles, machinery, and steel products, produced a major contribution to the trade balance of the United States. We generated, in the course of our navigational activities on the Delaware River, over $358 million in customs receipts, which is nearly a 10-to-1 return.

I heard Senator Bentsen refer to the stockholders of this country that have made a good investment, and we feel that the Government has made a very good investment in the Delaware River channels.

In closing, we support the President's budget, and the Corps has indicated that the money budgeted for this year will be adequate to maintain our channels. We solicit your support to see that the funds are forthcoming, and we hope to keep the economy booming.

I would like to turn it over to Mr. Pettegrew to answer any questions you may have, sir.

[The statement follows:]

STATEMENT OF THE JOINT EXECUTIVE COMMITTEE FOR THE IMPROVEMENT AND DEVELOPMENT OF THE PHILADELPHIA PORT AREA

IDENTIFYING REMARKS

The Joint Executive Committee for the Improvement and Development of the Philadelphia Port Area is port-affairs spokesman for twenty-four Delaware Valley civic and trade associations whose names appear at the bottom of this letterhead page. Organized in 1888, this Committee has participated in and promoted all major navigation improvements to the Delaware and Schuylkill Rivers and to the Chesapeake and Delaware Canal. The Members pay no dues beyond the nominal amounts needed to cover the Organization's administrative expenses, and the Officers serve without compensation.

Our Delaware River Ports -- Camden, Gloucester, Morrisville, Philadelphia and Wilmington -- identified collectively as the Ports of Philadelphia, handled 63.4 million tons of international cargo during calendar year 1985. This commerce generated more than a billion dollars into the economy of the tri-state Delaware Valley region. In addition to our international trade, the Ports of Philadelphia handled approximately 30 million tons of domestic cargo. International cargo through the Ports of Philadelphia increased by 10% during the calendar year 1985. Contributing to this increase was the fact that improvement in channel conditions through adequate channel maintenance has resulted in the dramatic growth of coal exports from 1.2 million tons in 1984 to over 5 million tons in 1985. This together with the export of over 5 million tons of automobiles, chemicals, machinery and steel products serves as a major contribution to the trade balance of the United States. We are hopeful that good channel maintenance will permit this continued upward trend.

Seven major oil refineries; the largest refinery complex on the east coast, plus one of the nation's largest steel mills are located along the Delaware River. In addition to the support these facilities lend to the economy and to national defense, the Philadelphia Naval Base is strategically located at the confluence of the Delaware and Schuylkill Rivers. In 1985, the Ports of Philadelphia produced $358 million for the Federal Government in Customs Receipts. The above reasons require us to solicit your support for our important and necessary navigation projects.

SUMMARY

The Joint Executive Committee recognizes the need for fiscal restraint. We also have been assured by the Corps of Engineers that the funds contained in the Administration's Budget will provide adequate maintenance of our federal navigation projects. With this in mind we support the President's FY '87 Budget as it relates to our navigation projects and solicit no increases beyond the minor amount proposed for Schuylkill River study funding.

FULL TESTIMONY

NEW CONSTRUCTION

Delaware River In The Vicinity of Camden

Funds in the amount of $2,650,000 are provided in the President's Fiscal Year '87 Budget for construction of the long-pending 37-foot authorized approach channel to Beckett Street Terminal, Camden, New Jersey. The terminal itself has undergone improvements costing $40 million; a portion of which was in anticipation of the completion of the 37-foot approach channel. The project was adopted in 1918 and a recent re-study by the Corps confirms a favorable benefit/cost ratio of 4.5 to 1. Pre-construction planning and engineering have been completed and we are informed that the Corps could move on this vital project once construction funds are allocated.

Camden is one of the most depressed areas in the Country. Job opportunities are practically non-existent with the exception that the Port continues to offer hope for change. The deepdraft vessels which this terminal can accommodate are denied full access to these facilities until the 37-foot project is realized. Local interests have acknowledged to the Corps of Engineers that they will comply with the requirements imposed by the Executive Branch of government and will meet all conditions of local cooperation to include required cost contributions which will exceed $1,000,000. This cooperation signifies the importance of this project to the local economy and illustrates why the budgeted appropriation of $2,650,000 of new construction funds is deserving of favorable action.

OPERATIONS AND MAINTENANCE

The proposed FY '87 Budget provides the U.S. Army Corps of Engineers with the following amounts for the operation and maintenance of the major authorized navigation projects in our area of interest:

Delaware River, Philadelphia to the Sea	$20,146,000
Delaware River, Philadelphia to Trenton	4,660,000
Schuylkill River	3,227,000
Wilmington Harbor	9,794,000
Chesapeake & Delaware Canal	21,096,000
Salem River, New Jersey	718,000
Total	$59,641,000

Delaware River - Philadelphia to the Sea and Philadelphia to Trenton

Adequate maintenance of our 40-foot channel is of utmost importance to the Ports of Philadelphia. The navigable channel from Trenton to the sea is 120 miles long and it makes it possible for the economies inherent in waterborne commerce to be brought to the doorsteps of one of the largest urban areas of the United States. This conduit of commerce provides over 90,000 much needed jobs to the area, over a billion dollars in business revenue and $50 million dollars in local tax revenues. It is only through adequate channel maintenance, which is dependent on adequate funding, that our regional economy will continue to prosper. In view of this we support the appropriation of $24,806,000 for the combined Delaware River - Philadelphia to the Sea and Philadelphia to Trenton projects.

Schuylkill River

The $3,227,000 in the President's Budget is considered adequate to maintain the navigable portions of the Schuylkill River at authorized depths. This will continue to provide access for vessels moving petroleum products to Chevron and Atlantic - two of the areas major refineries as well as to Swann Oil Terminal; for the delivery of gypsum rock to a major manufacturing plant located on the River; and will allow for the continued export of grain from the Tidewater grain elevator.

Chesapeake and Delaware Canal

The Chesapeake and Delaware Canal continues to be a vital link between the Ports of Baltimore and Philadelphia. This canal which is the busiest man-made sea-level canal in the United States continues to carry an ever increasing tonnage of general cargo. Commerce through this canal now has reached 17 million tons per year. Cargo is carried in ocean-going vessels with drafts up to 31 feet. We are assured that the $21,096,000 in the President's Budget will provide for adequate channel maintenance and operations and will include a non-recurring expense for redecking the Summit Bridge. The Joint Executive Committee supports this budget line item.

Salem River

Local interests at Salem, New Jersey, have made considerable expenditures in recent years towards developing a port facility to better serve the farmers of South Jersey in the export of their products. The $718,000 provided in the President's Budget will provide a proper channel between Salem and the Delaware River. This will provide the South Jersey farmers with the advantage of low cost waterborne commerce to better market their products; both nationally and internationally. The Joint Executive Committee supports this proposal in the interest of farming and an improved export posture.

Wilmington Harbor

The Port of Wilmington is a substantial economic asset to the City of Wilmington, the State of Delaware and the surrounding region. The Port's activities provide an estimated 1,000 jobs for area citizens and account for over $100 million in revenue impacts. The Port of Wilmington represents an investment of over $50 million in both public and private funds with $20 million planned for future expansion. Annual revenues in 1985 were $11.5 million; an increase of 18.6% over 1984. A new multi-purpose crane, capable of handling containers, bulk commodities and steel will soon come on stream; complementing an existing crane presently on site.

The budgeted amount of $9,794,000 will enable the Port of Wilmington to continue its dynamic progress; assuring additional economic growth to the region and the nation.

NAVIGATION STUDIES

Delaware River Comprehensive Navigation Study

Of particular import to local interests is the need to continue with the authorized study entitled Delaware River Comprehensive Navigation Study. This study will identify those channel improvements which are necessary to continue to maintain the Ports of Philadelphia as a viable asset. We urge your support of the $850,000 contained in the President's Budget in order to continue progress on this study.

Schuylkill River, Mouth to Penrose Avenue

The on-going interim or "fast track" study has analyzed navigation problems at the lower Schuylkill River associated with deepening the channel in order that it be consistent with the 40-foot Delaware River ship channel. Preliminary findings support deepening the project from 33 feet to 40 feet from the mouth of the Schuylkill River to the Penrose Avenue Bridge in order to maximize the waterborne capabilities of the Tidewater Grain Terminal and the adjacent Chevron oil terminal. Continuation of planning and engineering is warranted and we urge that $100,000 be added to the President's FY '87 Budget so as to expedite movement toward construction of this economically beneficial activity.

Ports of Philadelphia Witness List, United States Senate Energy and Water Development Subcommittee on Appropriations Hearing, April 14, 1986, Room SD-192, Dirksen Office Building, Washington, D.C.

Captain Paul Lane Ives, Jr., Chairman, Joint Executive Committee for the Improvement and Development of the Philadelphia Port Area

Captain James Wallace, Vice-Chairman, Joint Executive Committee for the Improvement and Development of the Philadelphia Port Area

Mr. William A. Harrison, Secretary-Treasurer, Joint Executive Committee for the Improvement and Development of the Philadelphia Port Area and Executive Director, Ports of Philadelphia Maritime Exchange

Mr. Lewis Caccese, P.E., Consultant, Joint Executive Committee for the Improvement and Development of the Philadelphia Port Area

Mr. James R. Kelly, President, Delaware River Port Authority

Captain Samuel M. Schellenger, Chairman, Mariners' Advisory Committee

Mr. Rob Wonderling, Manager, The Penjerdel Council

Mr. Marvin Robinson, Commissioner, Pennsylvania Navigation Commission

Mr. John Haines, Director of Governmental Affairs, Philadelphia Port Corporation

Captain Jack Sparks, President, Pilots' Association For The Bay and River Delaware

Mr. Richard Coffey, Director of Marketing, Port of Wilmington

Mr. Robert L. Pettegrew, Executive Director, South Jersey Port Corporation

Delaware River, Vicinity of Camden, NJ

Senator Cochran. Mr. Pettegrew?

Mr. Pettegrew. Thank you, Mr. Chairman.

I am Robert L. Pettegrew, executive director of the South Jersey Port Corp. of Camden, NJ. This is an agency of the State of New Jersey. I am here to testify in support of the Corps of Engineers' proposal to dredge a 37-foot-deep approach channel to our Beckett Street Terminal in Camden.

LOCAL INVESTMENT

In recent years, our corporation has invested over $40 million to make our port terminals as modern and efficient as any break bulk and dry bulk cargo facilities on the east coast. Our investment has been particularly important to our region, because Camden, as you know, is one of the economically depressed areas of our country. Because of this, our marine terminal facilities make a major economic contribution to the area in that we generate over $30 million in port-related revenues and over 500 full-time jobs in the region.

Unfortunately, our investment to date cannot be fully utilized because of the limitations on shipping activities caused by the present inadequate 30-foot-deep vessel approach to our terminal. This limitation has long been recognized, and the planned deepening to 37 feet has been authorized since 1919; unfortunately, the work has yet to be done.

We are very encouraged that the Corps feels that moving ahead with this project at this time is the appropriate thing to do.

BUDGET REQUEST

The Corps' fiscal year 1987 budget request of $2.6 million, along with the local contribution by the State of New Jersey through the South Jersey Port Corp., will make this project a reality.

During this past year, we handled over 1.8 million tons of cargo through our Beckett Street Terminal. Once the 37-foot dredging project is completed, we believe our business will increase by about 25 percent, or to approximately 2.25 million tons.

If these projections hold true, and we are confident they will, we anticipate that upward of 100 new jobs will be created. In order to prevent any delay in the implementation of this project, the South Jersey Port Corp. has already entered into a cost-sharing agreement with the Corps of Engineers.

Mr. Chairman, as you can see, we are prepared, along with the Corps, to start this important project in Camden as soon as possible. We hope the Congress will appropriate the $2.6 million requested by the Corps for the Beckett Street Terminal Project.

Senator Cochran. Thank you, Mr. Pettegrew.

I notice in your statement, this project was authorized in 1919?

Mr. Pettegrew. 1919, and modified.

Senator Cochran. Modified in 1945, but the authorization still exists, and this is a new start, they call it. [Laughter.]

Mr. PETTEGREW. Yes, sir; unfortunately.

Senator COCHRAN. But there is a request for funding in the President's budget, as I understand it?

Mr. PETTEGREW. Yes, sir, Mr. Chairman.

Senator COCHRAN. This is very helpful to the committee to have the benefit of your testimony and this information which you provided to us on both this channel project and the other activities that are planned and requested for this next year in the Delaware River and the Camden, NJ, area. This is an important port, no question about it, and I am sure that the committee will benefit from your having been here and all of these others who are identified as being here today to show the strong support of this area for these activities.

There is no additional funding, as I understand it, being requested by your group? You are simply supporting the President's request for the funding of these projects?

Mr. IVES. That is correct.

Senator COCHRAN. We appreciate your being here.

Mr. IVES. Thank you very much, Mr. Chairman.

Mr. PETTEGREW. Thank you, Mr. Chairman.

[The statement follows:]

STATEMENT OF THE SOUTH JERSEY PORT CORP.

Mr. Chairman and Members of the Committee:

I am Robert L. Pettegrew, Executive Director of the South Jersey Port Corporation of Camden, New Jersey (an agency of the State of New Jersey). I am here today to testify in support of the Corps of Engineers' proposal to dredge a 37-foot deep approach channel to our Beckett Street Terminal in Camden.

In recent years, our Corporation has invested over $40 million to make our port terminals as modern and efficient as any break bulk and dry bulk cargo facilities to be found on the East Coast. Our investment has been particularly important to our region because Camden, as you know, is one of the most economically depressed urban areas of our country. Because of this, our marine terminal facilities make a major economic contribution to the area in that we generate over $30 million in Port related revenue and over 500 full-time jobs in the region.

Unfortunately, our investment to date cannot be fully utilized because of the limitations on shipping activities caused by the present inadequate 30-foot deep vessel approach to our Beckett Street Terminal. This limitation has been long recognized and the planned deepening to the 37-foot level has been authorized since 1919; unfortunately the work has yet to be done.

We are very encouraged that the Corps feels that moving ahead with this project at this time is the appropriate thing to do. The Corps' FY 87 budget request of $2,630,000, along with the local contribution by the State of New Jersey thruugh the South Jersey Port Corporation, will make this $4.5 million dredging project a reality.

During this past year, we handled over 1.8 million tons of cargo through our Beckett Street Terminal. Once the 37-foot dredging project is completed, we believe that our business will increase by 25% to approximately 2.25 tons. If these projections hold true, and we are confident they will, we anticipate that upward of 90-100 jobs will be created.

In order to prevent any delay in the implementation of this project, the South Jersey Port Corporation has already entered into a cost sharing agreement with the Corps of Engineers. Mr. Chairman, as you can see, we are prepared, along with the Corps, to start this important Delaware River project, in Camden, New Jersey, as soon as possible. We hope the Congress will appropriate the $2,630,000 requested by the Corps for the Beckett Street Terminal project.

For the record, I would like to provide for the Committee's information a cost breakdown of the project showing the Federal Government's share vs. the South Jersey Port Corporation's contribution. In addition, I am also submitting for the record a copy of our letter of agreement with the Corps of Engineers and a small drawing which clearly illustrates why this project is vitally needed to permit deep draft vessels in service today to serve our Port.

Thank you for affording me this opportunity to testify, and I would be happy to respond to any of your questions on this project.

DELAWARE RIVER PROJECT AT CAMDEN, NEW JERSEY

Description

-- The initial authorization for the project was adopted in 1919, amended in 1945, and remains extant.

-- The initial authorization provided for three segments of the channel to be dredged to 18 feet, 30 feet, and 37 feet. Both the 18 feet and 30 feet segments have been completed.

-- The cost of the project is approximately $4.5 million.

-- The project would deepen an area offshore of the Beckett Street terminal in Camden from 30 feet to a depth of 37 feet.

-- Approximately $10-12 million of non-Federal funds have been spent to construct a 40-foot berth in reliance on the authorization. (This is in addition to the $30 million already invested by the State of New Jersey through the South Jersey Port Corporation, to construct the Beckett Street terminal.

-- In October, 1985, the South Jersey Port Corporation agreed in writing to provide the appropriate funds to satisfy the level of non-federal cost-sharing adopted by Congress for new construction.

-- The project was included in the Army Corps of Engineers FY 87 Budget.

Budget Breakdown

Total Project Cost:

Corps of Engineers Budget Request	$2,630,000
South Jersey Port Assessment	$1,343,250
South Jersey Port land costs, easements, rights-of-way, relocations, and disposal costs	$ 236,000
Additional South Jersey Port 10%	$ 443,000
Total Project Cost	$4,652,250

State of New Jersey
SOUTH JERSEY PORT CORPORATION

October 16, 1985

LTC Ralph V. Locurcio, USA
District Engineer
U. S. Army Corps of Engineers
Custom House, 2nd & Chestnut Sts.
Philadelphia, PA 19106

Dear Colonel Locurcio:

Reference is made to your letter of August 2, 1985, and to our discussions regarding construction of the Delaware River in the Vicinity of Camden, New Jersey project held on August 19, 1985. This letter constitutes an expression of intent by the South Jersey Port Corporation to cooperate with the Federal Government in initiating construction of this project in Government Fiscal year 1987.

To facilitate construction of the project, the South Jersey Port Corporation will provide assurances to provide and maintain, when and as needed, such depth from the Federal channel line to and between the wharves at the Beckett Street terminal as may be required for the accommodation of vessels at the terminal as required in House Document No. 353, 77th Congress, 1st Session. As specified in my July 11, 1983 letter, the South Jersey Port Corporation will also:

a. Hold and save the United States free from damages due to the construction work, except for damages due to the fault or negligence of the United States or its contractor;

b. Comply with applicable provisions of the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 (P. L. 91-646) and implementing regulations; and

c. Comply with Title VI of the Civil Rights Act of 1964 (P. L. 88-352).

In addition, the South Jersey Port Corporation agrees at this time to provide without cost to the United States all lands, easements, rights-of-way, and relocations necessary for the construction, and subsequent operation and maintenance of the project including suitable areas, determined by the Chief of Engineers to be required in the general public interest for initial and subsequent disposal of spoil, or the costs thereof, and necessary retaining dikes, bulkheads, and embankments therefor, or the costs of such retaining works. We also agree to provide such funds as are necessary to meet the non-Federal requirements for construction during the term of construction that currently, for commercial navigation with incremental depths of 20'-45', is determined to be 25% with an additional 10% of construction costs to be amortized over a 30-year period following construction.

It is understood that the total project cost is currently estimated to be $4,415,000 which is exclusive of lands, easements, rights-of-way and disposal area costs and includes allowances for inflation through the construction period. The South Jersey Port Corporation will be responsible for $1,455,000, which includes 25% of the construction cost of $4,415,000, plus $350,000 for lands, easements, rights-of-way, relocations and disposal area costs. Additionally, the South Jersey Port Corporation will repay $442,000 (10% of the construction costs) upon completion of the construction and has the option to do so over a 30-year period at 1/8% over the prevailing market interest rate.

It is understood that the provision of the items of local cooperation is a non-Federal responsibility and that South Jersey Port Corporation will bear the full costs thereof, regardless of any cost-sharing percentages specified above. These items of local cooperation are:

a. Provide and maintain when and as needed such depth from the Federal channel line to and between the wharves at Beckett Street terminal as may be required for the accommodation of vessels at the terminal;

b. Hold and save the United States free from damages due to the construction work, except for damages due to the fault or negligence of the United States or its contractor;

c. Provide without cost to the United States all lands, easements, rights-of-way, and relocations necessary for the construction, and subsequent operation and maintenance of the project including suitable areas determined by the Chief of Engineers to be required in the general public interest for initial and subsequent disposal of spoil, or the costs thereof, and necessary retaining dikes, bulkheads, and embankments therefor, or the costs of such retaining works.

d. Comply with Title VI of the Civil Rights Act of 1964 (P. L. 88-352).

It is also understood that operation and maintenance of the project will be a Federal responsibility.

The project to be constructed is that generally described in the General Design Memorandum and Environmental Assessment dated October 1983. Attached, as Exhibit A, is a schedule of non-Federal expenditures for the cash contribution portion of the non-Federal requirement through the estimated 6-month construction period. The schedule is based on the $4,765,000 estimate of total project costs. It is further understood that the estimates of costs are preliminary and that final costs will depend on the actual costs of construction.

The South Jersey Port Corporation is the agency empowered by law to provide the non-Federal cooperation required for the Delaware River in the Vicinity of Camden, New Jersey project and, prior to construction, will enter into a binding written agreement with appropriate representatives of the Corps of Engineers which addresses project construction and satisfies the requirements of Section 221 of Public Law 91-611. Attached as Exhibit B is an assessment of the South Jersey Port Corporation's ability to pay the non-Federal portion of costs for the project.

It is further understood that if this letter of assurance is acceptable to the Assistant Secretary of the Army for Civil Works, he will recommend to the Office of Management and Budget that an appropriate request for funds to support the Delaware River in the Vicinity of Camden, New Jersey construction be included in the President's budget for Fiscal year 1987. As previously recognized, if legislation is enacted which changes cost sharing and financing for this project, such cost sharing and financing provisions will supersede this financial agreement.

Sincerely,

Robert L. Pettegrew

EXHIBIT A
DELAWARE RIVER IN THE VICINITY OF CAMDEN, NEW JERSEY
SCHEDULE OF NON-FEDERAL EXPENDITURES

Total Non-Federal First Costs Payable During Construction Period: $1,455,000*

Construction Year	Construction Cost	Non-Federal First Cost
1	$ 4,765,000	$ 1,455,000
Total	$ 4,765,000	$ 1,455,000

* Includes:	$ 235,000	disposal area preparation
	115,000	LERR (lands, easements, rights-of-way)
	1,105,000	25% of $4,415,000 estimated construction cost
	$1,455,000	-non-Federal first costs

Additional, non-Federal costs payable upon completion of construction: 10% x $4,415,000 = $442,000. This amount may be repaid over a 30 year period at 1/8% over the prevailing market interest rate.

EXHIBIT B

DELAWARE RIVER IN THE VICINITY OF CAMDEN, NEW JERSEY
FEDERAL NAVIGATION PROJECT (37 FT.)
ASSESSMENT OF ABILITY TO PAY

SUMMARY

The South Jersey Port Corporation (SJPC) is a duly empowered agency of the State of New Jersey, Department of Commerce and Economic Development. As such, the Corporation, as a legally constituted, public body, has the full authority and capability to perform the terms of the local cooperation agreement; SJPC has the ability to make the required cash contributions during construction and repay the remaining share of non-Federal costs over time.

It is anticipated that SJPC would use proceeds from its general borrowing capabilities for its cost share. The debt would be refunded by the revenues derived from the commercial traffic making use of the SJPC land-side facilities.

NEW YORK AND NEW JERSEY PORT PROJECTS

Senator COCHRAN. Our next witness on the agenda is Mr. James Kirk, director of port department, Port Authority of New York and New Jersey.

We understand that Mr. Kenneth La Fever and Michael P. Huerta are also present. We ask you to come forward.

These projects involved major New York and New Jersey navigation activities. We have some statements which have been provided to the subcommittee which will be included in the record in full.

Mr. Kirk, we invite you to proceed to summarize and make any comments you wish.

Mr. KIRK. Thank you, Mr. Chairman, subcommittee members.

I am James J. Kirk, director of the port department of the Port Authority of New York and New Jersey. With me on my far left are Deputy Commissioner Kenneth B. La Fever of the New Jersey Department of Commerce and Economic Development on my immediate left; Commissioner Michael Huerta of the New York City Department of Ports, International Trade and Commerce; on my right is Mr. Alfred Hammond, the supervisor of navigation projects and harbor projects for the Port Authority of NewYork and New Jersey.

Commissioners Le Fever and Huerta and myself will offer fiscal year 1987 recommendations for specific deep water navigation projects in the Port of New York and New Jersey. In keeping with your request for brevity, we will summarize our remarks but ask, as you have indicated, that our full joint statement, with its witness list from the cover and funding summary, be accepted for the record. We will be, of course, glad to answer any questions that you may have.

KILL VAN KULL, NEWARK BAY CHANNELS, NEW JERSEY

I will confine my remarks to two projects: the first is the Kill Van Kull, Newark Bay Channels project, for which the Federal budget proposes $12 million for construction. Through authority in the fiscal year 1985 Supplemental Appropriations Act of deepening of this project from 35 to 44 feet, the port authority is urging an initial depth of only 40 feet. While we appreciate that $12 million is a sizeable sum of money, we respectfully suggest that funding this critical project at this rate could result in a 9-year completion of this $145.4 million project.

FUNDING REQUEST

The time from authorization of the study of this improvement in 1972 to its authorization and construction in 1985 has already taken about 14 years. The needs of deep draft container and other shipping to Port Newark and the Elizabeth Port Authority Marine Terminal are already constrained by a 35-foot-deep channel and simply cannot wait any longer. We are, therefore, urging that this long-delayed project be finished in 2 years, and for this purpose, request an appropriation of $50 million to be matched by a port authority share of about $127 million.

We believe the Corps has the capability to do this much work in fiscal year 1987, and we are currently negotiating with the Corps of Engineers to conclude the necessary agreement that will develop local participation for a start in the fall. I would also like to note that we deeply appreciate the inclusion of the Kill Van Kull project in the fiscal year 1985 supplemental appropriations bill last year. If the amount we are requesting for the project is provided by Congress, the Corps of Engineers will be able to take maximum advantage of the head start and complete the work in 2 years.

NEW YORK HARBOR COLLECTION AND REMOVAL OF DRIFT

The second project that I will address is the New York Harbor collection and removal of drift project. Under construction since 1976, this project is transforming large stretches of the waters and shoreline of the port from a graveyard of sunken hulks and deteriorating piers into opportunities for productive resource and more pleasing asthetics. We would ask that the budget recommendation of $4.6 million be increased to $5 million to meet expanding and city cleanup targets and fulfill the matching funds they have available for this work.

This is an immensely worthwhile and popular undertaking, and I want to thank this subcommittee for giving it its continuing support over the last decade.

In closing, I would like to thank you for the opportunity to appear and say that I hope you will be able to visit the port this July, when the Nation celebrates the centennial of the Statue of Liberty. I will now ask Deputy Commissioner La Fever to speak to the special project interests of the State of New Jersey.

Senator COCHRAN. Mr. La Fever, you may proceed.

Mr. LA FEVER. Mr. Chairman and distinguished members of the subcommittee, I am Kenneth La Fever, deputy commissioner of the New Jersey Department of Commerce and Economic Development. Within our department's Office of Business Advocacy, we established a Maritime Advisory Council to emphasize New Jersey's position as a maritime State and that industry's impact on our State economy. The creation of the Maritime Advisory Council marks a commitment by New Jersey to provide the private sector with an ombudsman to assist in statewide development and to promote Federal river and harbor projects of benefit to New Jersey and the region.

NEW YORK HARBOR AND ADJACENT CHANNELS STUDY

This Department was pleased to see $200,000 included in the President's budget from the New York Harbor and adjacent channel studies in fiscal year 1987 to complete the financial survey report for the Claremont Terminal and Port Jersey Channels. These studies, authorized by Congress in 1968 and 1980, respectively, were consolidated, initiated to determine the feasibility of deepening the privately maintained 24-foot deep Claremont Terminal and 35-foot deep Port Jersey channels for commercial deep-draft navigation.

The users of these channels urgently require deeper water to reduce shipping costs, increase their ability to continue to participate in the import/export market, service growing fleets of larger vessels, and provide safer access to their facilities.

Although the fiscal year 1987 funding will be sufficient to complete the final study reported by the Corps of Engineers by June 1987, New Jersey requests the addition of $100,000 for the continuated planning and engineering for the Port Jersey Channel, as well as $200,000 for the continued planning and engineering for the Claremont Terminal Channel. This funding will allow these vitally important projects to continue without delay beyond the final survey report and into the next phase in an uninterrupted manner.

We are anxious for these projects to progress because of the significant impact on our region's economies. The Port Jersey Channel serves 13 container lines and handles more than 15 percent of the total container traffic in the New York and New Jersey Port District, providing on-site employment to 600 people.

The 24-foot-deep Claremont Terminal Channel presently employs 200 people from the region, and it handles in excess of 40 percent of the scrap metal shipped from the port district annually.

As part of the New York Harbor and adjacent channels project study, we also request an appropriation of $400,000 to revisit and study the feasibility of modifying the Ambrose and Anchorage Channels. The larger petroleum and petrochemical deep-draft tanker vessels now in the world market are able to realize immediate savings by utilizing the natural deep water of the upper New York Bay anchorage off Staten Island. The deepening of this 45-foot-deep waterway will be considerably reduced in cost, since the Corps of Engineers has authorized private interests to mine sand from its lower reaches to a depth down to 53 feet, an authority which could be extended upstream in the future.

ARTHUR KILL CHANNEL TO FRESH KILL STUDY

The 35-foot-deep existing Arthur Kill south to Fresh Kill study precludes the full loading of liquid and dry bulk cargo ships destined for shoreside facilities. This situation requires that large oceangoing vessels either light load at substantial loss of economy or perform expensive lightering operations.

Six deep-draft bulk facilities along the Arthur Kill extension handle annual cargo in excess of 10 million tons. Petroleum, petrochemicals, specialty chemicals, sulphur, and cement are carried in large modern vessels which could immediately benefit from substantial savings if the existing channels were deepened.

For these reasons, it is requested that $250,000 be appropriated in fiscal year 1987 so a general investigation by the Corps of Engineers can start to address the navigation problems of the Arthur Kill south to Fresh Kills, in anticipation of project authorization in pending water resources legislation.

We have designed this additional appropriation request of $650,000 for these four projects to be consistent with congressional efforts to reduce unemployment and promote economic growth. Delays in these water improvements will result in higher port costs, loss of employment, and slower economic recovery.

Before I defer to Commissioner Huerta, let me state for the record that the State of New Jersey endorses the project funding request by my colleagues. Thank you for your consideration of our recommendations and the opportunity to present these matters to this committee.

Senator COCHRAN. Thank you, Mr. La Fever.

Mr. Huerta?

Mr. HUERTA. Mr. Chairman, I am Michael P. Huerta, commissioner of the New York City Department of Ports, International Trade, and Commerce. The three major marine terminals in New York City are all undergoing massive capital improvements. The purchase of new container cranes, improved storage and berthing capability, and the rehabilitation of infrastructure are publicly financed improvements that will total in excess of $165 million.

ARTHUR KILL CHANNEL DEEPENING

The appropriation of Federal funds for the planning and construction of deeper channels in the port is necessary if we are going to fully utilize these landside improvements. I would like to focus my remarks today on the deepening of Arthur Kill Channel. This project is the city's No. 1 priority. It will deepen the existing channel to the Howland Hook Marine Terminal from 35 feet to 41 feet and to 40 feet from the

Howland Hook Marine Terminal to the Exxon refinery in the State of New Jersey and the Gulf Port Terminal on Staten Island. The cost for these improvements has been estimated at $51 million in 1985 dollars.

The United States Lines, a major tenant at the Howland Hook Marine Terminal, has a fleet of 12 super containerships which are more than 950 feet long and have a design draft of 39 feet. These vessels are each capable of carrying 2,000 containers. Under the present situation, these vessels must either arrive loaded at less than full capacity or wait for high tide, both inefficient and costly operations.

Nearly $100 million in improvements will be made in the next few years to accommodate vessel traffic at the terminal. The deepening and widening of the Arthur Kill is vital to improving ship-handling capabilities at Howland Hook and for the shipment of bulk products to terminals further south.

KILL VAN KULL, NEWARK BAY CHANNELS, NEW JERSEY

This channel improvement project is tied in with the improvement to the Kill Van Kull, Newark Bay channels project. Construction on the Kill Van Kull Channel is slated to begin this fall and it is anticipated that work could reach the junction of the Newark Bay Channel by the end of 1987. In order for construction to start on the Arthur Kill Channel in fiscal 1988, all design and engineering work must be completed in fiscal year 1987.

FUNDING REQUEST

The Corps of Engineers has indicated that $900,000 is required to complete all such necessary work. The fiscal year 1986 appropriation included $200,000 for continued planning and engineering and the proposed fiscal 1987 budget includes $500,000, thereby creating a shortfall of $200,000 necessary to complete the work.

We, therefore, request that $700,000 be appropriated in fiscal year 1987 for this project so that the Corps can complete its work and be prepared to move forward with construction in fiscal year 1988. Ship channels and the marine terminals they support, contrary to some other types of public expenditures, are investments in our Nation's prosperity, and to that end, warrant your most considered attention.

It is also noteworthy, I think, that 1986 is the first year in the Nation's history that local ports like New Jersey and New York have become joint funding partners in the construction of channels and will be contributing to the economic well being of our country.

Mr. Chairman, that concludes our oral testimony.

[The statements follow:]

STATEMENT OF JAMES J. KIRK, DIRECTOR, PORT DEPARTMENT, PORT AUTHORITY OF NEW YORK AND NEW JERSEY

Representing Also:

Bayonne Chamber of Commerce (NJ)
Board of Pilots Commission, State of New Jersey
Brooklyn Chamber of Commerce (NY)
Chamber of Commerce of the Borough of Queens (NY)
City of Newark, Department of Engineering
City of New York Port Council
Commerce and Industry Association of New Jersey
Downtown Brooklyn Development Association (NY)
Greater Newark Chamber of Commerce (NJ)
Hudson County Chamber of Commerce and Industry (NJ)
International Longshoremen's Association
Local 333-United Marine Division
Maritime Advisory Council of New Jersey
Maritime Association of the Port of New York and New Jersey
Maritime Port Council of Greater New York and Vicinity
New Jersey Alliance for Action
New Jersey State Chamber of Commerce
New York Board of Trade
New York Chamber of Commerce and Industry
New York-New Jersey Port Promotion Association
New York Shipping Association, Inc.
New York State Department of Environmental Conservation-Region II
Save Our Port
Staten Island Chamber of Commerce (NY)
Towboat and Harbor Carriers Association of New York and New Jersey
Union County Chamber of Commerce (NJ)
United New Jersey Sandy Hook Pilots Benevolent Association
United New York Sandy Hook Pilots Benevolent Association
West Side Association of Commerce in the City of New York, Inc.

I am James J. Kirk, Director, Port Department of The Port Authority of New York and New Jersey. Joining me are The Honorable Borden R. Putnam, New Jersey State Commissioner of Commerce and Economic Development, and The Honorable Michael P. Huerta, New York City Commissioner of Ports and Terminals. Each of us will address specific projects commensurate with our roles as the agency of local cooperation or according to our special interests. We have also been authorized to speak on behalf of the 29 civic, trade, labor and governmental organizations listed on the cover sheet of this statement. We thank you, Mr. Chairman, and the members of your Subcommittee for affording us this time to make our project funding needs known to you.

In keeping with the request of the Subcommittee, I will summarize our recommendations for Federal Fiscal Year 1987 appropriations for deepwater port navigation projects in the Port of New York and New Jersey under the jurisdiction of the U.S. Army Corps of Engineers' Civil Works Program.

They are as follows in the order of our presentation:

PROJECT	TYPE	RECOMMENDATIONS	
		BUDGET	PORT
Kill Van Kull and Newark Bay Channels	Construction	$12,000,000	$50,000,000
New York Harbor Collection & Removal of Drift	Construction	4,600,000	5,000,000
New York Harbor and Adjacent Channels	Study	200,000	600,000
Arthur Kill South to Fresh Kills	Study	None	250,000
Arthur Kill Channel	Study	500,000	700,000
TOTAL		$17,300,000	$56,550,000

KILL VAN KULL AND NEWARK BAY CHANNELS PROJECT (CONSTRUCTION)

A project of paramount importance to The Port Authority of New York and New Jersey at this time is the Kill Van Kull and Newark Bay Channels Project. After more than 13 years of Corps study intermingled with various delays, this project is at last authorized for construction in the Fiscal Year 1985 Supplemental Appropriations Act (Public Law 99-88) and is further recommended for authorization in currently pending Federal port legislation, namely, H.R.6 and S.1567. The Port Authority, on October 25, 1985 reconfirmed its 1978 intent to provide local cooperation for this project and therein also notified the Assistant Secretary of the Army for Civil Works of its willingness to participate in the required non-Federal cost-sharing for this project. We are currently working with the Corps of Engineers to conclude by the June 30, 1986 deadline execution of the Agreement of Local Cooperation with such cost-sharing as is required therein.

The proposed Federal Budget recommends $12 million in Fiscal Year 1987 as a start to a $291 million deepening of this project to a depth of 44 feet from its present depth of 35 feet. Given the long delay that has already occurred in realizing this improvement, we have requested the Corps to provide the urgently needed initial depth of 40 feet in two years. The latest estimated total cost of this depth is $145.4 million. Under cost-sharing, for the first time in a Federal channel deepening project, the Port Authority of New York and New Jersey will provide 25 percent or $36.3 million during construction. The Federal Government's contribution is thereby reduced to $109.1 million or 75 percent.

The $12 million Budget recommendation appears to be seriously inadequate for completing a $109 million construction program in a reasonable period of time. The deep draft shipping that is now constrained by the 35-foot depth of this waterway cannot afford the risk of further delays. The urgency of this work is dramatized by the grounding of a large United States Lines containership on the rocks off Bergen Point at the junction of Newark Bay and the Kill Van Kull on March 24, sending the vessel to the shipyard for repairs. The project calls for a widening of this junction, which is also used as a turning basin. It is essential, therefore, that this improvement be completed in two years.

This is a matter of highest priority for the Port of New York and New Jersey. Thus, we urge a Federal appropriation of $50 million for Fiscal Year 1987 to be matched by a Port Authority share of $16.7 million to achieve this two-year schedule.

NEW YORK HARBOR COLLECTION AND REMOVAL OF DRIFT PROJECT (CONSTRUCTION)

With construction underway since 1976, the New York Harbor Collection and Removal of Drift Project (Waterfront Cleanup) is aimed at the removal of 2,230 sunken hulks and 149 decaying shore structures that are the sources of dangerous, unsightly and costly harbor drift.

Major progress in waterfront clearance has been made to date under this project, one which enjoys widespread bi-State community participation and is continuously gaining momentun as its benefits become increasingly known and visible. It is a project that has long involved non-Federal cost-sharing in the form of a one-third local contribution for removal work and 100 percent local financial responsibility for required repairs to those estimated 182 shore structures considered repairable and usable.

The recommended appropriation of $4,600,000 is a welcome improvement to prior fiscal year appropriations for the project. However, in order to keep pace with local targets and the availability of local financial resources, we request that a modest $400,000 be added to allow for the completion of design work and the initiation of construction in additional areas in Jersey City, New Jersey and in Brooklyn, New York, for a total of $5,000,000.

Let me take note for a moment of the fact that Project expenditures are rapidly nearing the current Federally-authorized ceiling of $28,725,000. With more than $17,000,000 in Federal funds already expended, the Project could grind to a halt in less than two years unless the spending ceiling is appreciably raised to complete this project as authorized. Legislative measures will, therefore, be required to achieve a realistic expenditure authorization of $55 million to permit completion of the Project by its present target date of February 1993.

I will now turn over the remainder of our presentation to Commissioners Putnam and Huerta.

Mr. Chairman and distinguished members of the Subcommittee, I am Borden R. Putnam, Commissioner of New Jersey's Department of Commerce and Economic Development. In that capacity I also serve as Honorary Chairman of the New Jersey Maritime Advisory Council. The Council was established within our Office of Business Advocacy to emphasize New Jersey's position as a maritime state and that industry's impact on our State economy. The creation of the Maritime Advisory Council marked a commitment by New Jersey to provide the private sector with an ombudsman to assist in coordinating statewide waterfront development and to promote Federal river and harbor projects of benefit to New Jersey and the region.

NEW YORK HARBOR AND ADJACENT CHANNELS (STUDY)

This Department was pleased to see $200,000 included in the proposed Budget for the New York Harbor and Adjacent Channels Project in Fiscal Year 1987 to complete the final survey report for the Claremont Terminal and Port Jersey Channels. These studies, authorized by Congress in 1968 and 1980, respectively, were consolidated and initiated within this project to determine the feasibility of deepening the privately-maintained 24-foot deep Claremont Terminal and 35-foot deep Port Jersey Channels for commercial deep-draft navigation. The users of these channels urgently require deeper water to reduce shipping costs, increase their ability to continue to participate in the import/export market, service growing fleets of larger vessels and provide safer access to their facilities.

Although the proposed Fiscal Year 1987 funding will be sufficient to complete the final study report by the Corps of Engineers by June 1987, New Jersey requests the addition of $100,000 for Continued Planning and Engineering (CP&E) for the Port Jersey Channel, as well as $200,000 for Continued Planning and Engineering (CP&E) for the Claremont Terminal Channel. This added funding will allow these vitally important projects to continue without delay beyond the final survey report and into the next phase in an uninterrupted manner.

We are anxious for these projects to progress because of their significant impact on our region's economy. The Port Jersey Channel serves 13 container lines at a privately-financed, 100-acre facility built at a cost of $50 million and having on-site employment in excess of 600 people. During 1985, this terminal handled 364 vessel calls and more than 15% of the total container traffic in the New York and New Jersey Port District.

The 24-foot deep Claremont Terminal Channel presently accommodates 35 vessels and 750,000 tons of cargo annually while directly employing 200 people from the region. This waterway handles in excess of 40% of the scrap metal shipped from the Port District annually, and with deeper water could significantly improve its ability to serve the region.

As part of the New York Harbor and Adjacent Channels Project we also request an appropriation of $100,000 to revisit and study the feasibility of modifying the Ambrose and Anchorage Channels, which are also part of this project. The larger petroleum and petro-chemical deep-draft tanker vessels now in the world market are able to realize immediate savings by utilizing the naturally deep water of the Upper New York Bay Anchorage off Staten Island. A deepening of this 45-foot deep Federal waterway to serve this anchorage would be considerably reduced in cost, since the Corps of Engineers has authorized private interests to mine sand from its lower reaches to a depth down to 53 feet, an authority which could be extended upstream in the future.

In summary, we ask that the Budget recommendation of $200,000 for this project be increased to $600,000.

ARTHUR KILL SOUTH TO FRESH KILLS (STUDY)

The 35-foot deep existing Federal project in the Arthur Kill South to Fresh Kills precludes the full loading of liquid and dry bulk cargo ships destined for shoreside facilities. This situation requires that large oceangoing vessels either light load at substantial loss of economy, or perform expensive lightering operations. Local interests in both New York and New Jersey desire deeper channels to streamline operations, realize considerable transportation savings and enhance adjacent underutilized properties to accommodate additional facilities.

Six deep-draft bulk facilities along the Arthur Kill extension handle annual cargo in excess of 10 million tons. Petroleum, petrochemicals, specialty chemicals, sulphur and cement are carried in large modern vessels which could immediately benefit from substantial savings if the existing channels were deepened. The area is highly industrialized and this channel improvement is consistent with adjacent land uses.

For these reasons it is requested that $250,000 be appropriated in Fiscal Year 1987 so a general investigation by the Corps of Engineers can start to address the navigation problems of the Arthur Kill South to Fresh Kills in anticipation of project authorization in pending water resources legislation.

We have designed this additional appropriation request of $650,000 for these four projects to be consistent with Congressional efforts to reduce unemployment and promote economic growth. The area in which the above study projects are located is urgently in need of economic stimulation. Delays in these waterway projects will result in higher port costs, loss of employment and terminal expansion and a slower regional economic recovery. Before I defer to Commissioner Huerta, let me state for the record that the State of New Jersey endorses the project funding requests made by my colleagues.

Thank you for your consideration of our recommendations and the opportunity to present these projects to this committee.

Thank you Commissioner Putnam. I am Michael P. Huerta, Commissioner of the Department of Ports and Terminals, City of New York. I assumed this position on March 3rd, and I am pleased to have this opportunity to meet with the members of the Subcommittee. I look forward to working with you on this and other important issues. The City of New York, together with the Port Authority of New York and New Jersey, the State of New Jersey, and numerous maritime, union, and civic organizations, have once again approached this request with a view towards the region's need for channel improvements and other navigation projects. We join with Mr. Kirk and Commissioner Putnam in endorsing the funding requests for all the projects that are the subjects of our joint statement.

The three major marine terminals located in New York City, the Red Hook and the South Brooklyn Marine Terminals in Brooklyn, and the Howland Hook Marine Terminal on Staten Island, are all undergoing substantial rehabilitation, expansion, and improvements. The purchase of new container cranes, improved storage and berthing capabilities, and the rehabilitation of infrastructure, are publicly financed capital improvements that will total in excess of $165 million. The appropriation of Federal funds for the planning and construction of deeper channels in the Port is necessary if we are going to fully utilize these landside improvements. I would like to focus my remarks today on the deepening of the Arthur Kill Channel, located between Staten Island and New Jersey.

ARTHUR KILL CHANNEL PROJECT (STUDY)

On March 7th, the Corps of Engineers' Board of Engineers For Rivers and Harbors, approved a feasibility study which was authorized by the Congress on May 9, 1979, for improving the Federal channel from the confluence of the Kill Van Kull and Newark Bay Channels to the Exxon and Gulfport petroleum terminals. The Arthur Kill Channel Project is the City's number one priority. This critical channel improvement project will deepen the existing 35-foot deep channel to 41 feet to the Howland Hook Marine Terminal, and to 40 feet from the Howland Hook Marine Terminal to the major private users, the Exxon refinery in Bayway and the Gulfport Terminal on the Staten Island shoreline. The cost for these improvements has been estimated at $51 million in January 1985 dollars.

United States Lines, a tenant at the Howland Hook Marine Terminal, has a fleet of 12 "super-containerships" which are more than 950 feet long, have a design draft of 39 feet and are capable of carrying 2,000 containers. These vessels are engaged in a world-wide service which originates in the Far East. The Howland Hook Marine Terminal is only one of two ports on the East Coast to be involved with this service. Under the present situation, these vessels must either arrive loaded at less than full capacity or wait for the high tide, both inefficient and costly options. Nearly $100 million in terminal improvements will be made at Howland Hook in the next few years in order to provide the berths, storage capability, warehousing, and safety needs of the facility. Deepening and widening of this channel is vital to improving ship handling capabilities at Howland Hook and for the shipment of bulk products to terminals further south on the Arthur Kill. The improvements will also eliminate potentially dangerous navigational hazards to vessels by the widening of sections of the channel.

This channel improvement project is tied in with the improvements to the Kill Van Kull and Newark Bay Channels Project. Since the Kill Van Kull is located between the Arthur Kill and the main shipping channel to sea, it must be dredged first. Construction on the Kill Van Kull Channel is slated to begin this Fall and it is anticipated that work could reach the junction of the Newark Bay Channel by the end of Fiscal Year 1987. Construction work on the Newark Bay and Arthur Kill Channels could thereafter proceed at the same time. However, in order for construction to start on this project in FY 1988, all of its design and engineering work must be completed in FY 1987. The Corps of Engineers has indicated that $900,000 is required to complete all of such necessary work. The Fiscal Year 1986 appropriation included $200,000 for Continued Planning and Engineering (CP&E) and the proposed Fiscal Year 1987 Budget includes $500,000, thereby creating a shortfall of $200,000 necessary to complete the work. We therefore request that $700,000 be appropriated in Fiscal Year 1987 for this project so that the Corps can complete its work and be prepared to move forward with construction in Fiscal Year 1988.

This, Mr. Chairman, concludes our statement. We know you face painful fiscal decisions in the resolution of our nation's growing budget deficit and that we are recommending a substantial increase in Federal expenditures. To that I can only take note that ship channels and the marine terminals they support, contrary to some other types of public expenditures, are investments in our nation's prosperity and to that end warrant your most considerate attention. It is also noteworthy that 1986 is the first year in the nation's history that local ports like New Jersey - New York have become joint funding partners in the construction of channels. I can think of no more profound way to signify the critical nature of these navigation improvements.

On behalf of Mr. Kirk, Commissioner Putnam and myself, let me thank you for the courtesy of presenting our recommendations to you. We will be pleased to try to answer any questions you may have.

STATEMENT OF DR. JOHN L. BUSSI, CHAIRMAN, NEW JERSEY DEPARTMENT OF COMMERCE AND ECONOMIC DEVELOPMENT MARITIME ADVISORY COUNCIL

REPRESENTING ALSO:

BAYONNE CHAMBER OF COMMERCE (N.J.)
BOARD OF PILOT COMMISSIONERS, STATE OF NEW JERSEY
CITY OF SALEM MUNICIPAL PORT AUTHORITY
DELAWARE RIVER AND BAY AUTHORITY
DELAWARE RIVER PORT AUTHORITY
HUDSON COUNTY CHAMBER OF COMMERCE
INTERNATIONAL UNION OF OPERATING ENGINEERS
JOINT EXECUTIVE COMMITTEE FOR THE IMPROVEMENT OF THE DELAWARE
MARITIME ASSOCIATION OF THE PORT OF NEW YORK AND NEW JERSEY
MARINE TRADES ASSOCIATION OF NEW JERSEY
NEW JERSEY ALLIANCE FOR ACTION
NEW YORK-NEW JERSEY PORT PROMOTION ASSOCIATION
PENJERDEL (PA, NJ, DEL) COUNCIL
TOWBOAT AND HARBOR CARRIERS ASSOCIATION OF NEW YORK AND NEW JERSEY
PILOTS ASSOCIATION FOR THE BAY AND RIVER DELAWARE
PORT AUTHORITY OF NEW YORK AND NEW JERSEY
SAVE OUR PORT COALITION
SOUTH JERSEY PORT CORPORATION
UNITED NEW JERSEY SANDY HOOK PILOTS BENEVOLENT ASSOCIATION
UNITED NEW YORK SANDY HOOK PILOTS BENEVOLENT ASSOCIATION

Mr. Chairman and members of the Committee, I am John L. Buzzi, Chairman of the New Jersey Maritime Advisory Council. This Council was established within the N.J. Department of Commerce and Economic Development, Office of Business Advocacy to emphasize New Jersey's position as a Maritime State and that industry's impact on our economy.

New Jersey is truly a Maritime State. The waterways which are contiguous to our State transport a quarter billion tons of waterborne commerce annually, they include the arteries for the shipping of the majority of the foreign commerce which our nation enjoys, and they provide a billion dollars in custom revenues annually. Our Atlantic Coast communities, with their unparalleled beach fronts, support a ten billion dollar recreation industry and our State is a major fishing center on the Atlantic Coast.

I endorse that which is presently included in the President's budget and will address those projects, which if not sufficiently authorized and funded by Congress, will have an adverse effect on the economic well being of our state.

Summary of Recommendations

In addition to the projects which we support as funded in the budget, the New Jersey Maritime Advisory Council wishes to recommend an additional appropriation of $40,294,000 in Federal funds in FY'87 allocated among eight projects. The Federal budget allotment for these eight projects is $17,422,000. The following statement shows project recommendations:

Project	Type	Recommendations Budget Request	 Local Interests
Arthur Kill Channel, NY & NJ	Study	500,000	700,000
Arthur Kill South to Fresh Kills, NJ & NY	Study	None	250,000
Cape May Inlet to Lower Township, NJ	Construction	None	766,000
Cold Spring Inlet, NJ	Operations & Maintenance	122,000	300,000
Kill Van Kull & Newark Bay Channels, NY & NJ	Construction	12,000,000	50,000,000
New Jersey Intracoastal Waterway, NJ	Study	None	100,000
New York Harbor & Adjacent Channels, NJ & NY	Study	200,000	600,000
New York Harbor Collection & Removal of Drift, NY & NJ	Construction	4,600,000	5,000,000
TOTAL		17,422,000	57,716,000

ARTHUR KILL CHANNEL, NY & NJ

On March 7th, the Corps of Engineers' Board of Engineers for Rivers and Harbors, approved a feasibility study for improving the Federal channel from the confluence of the Kill Van Kull and Newark Bay Channels to the Exxon and Gulfport petroleum terminals. This critical channel improvement project will deepen the existing 35-foot deep channel to 41 feet to the Howland Hook Marine Terminal, and to 40 feet from the Howland Hook Marine Terminal to the major private users, the Exxon refinery in Bayway and the Gulfport Terminal on the Staten Island shoreline. Deepening and widening of this channel is vital to improving ship handling capabilities at Howland Hook and for the shipment of bulk products to terminals on the Arthur Kill. The improvements will also eliminate potentially dangerous navigational hazards to vessels by the widening of sections of the channel.

In order for construction to start on this project in FY'88, all of its design and engineering work must be completed in FY'87. Since a shortfall of $200,000 for design and engineering work exists, we therefore request that $700,000 be appropriated in Fiscal Year 1987 for this project so that the Corps can complete its work and be prepared to move forward with construction in Fiscal Year 1988.

ARTHUR KILL SOUTH TO FRESH KILLS, NJ & NY

The 35-foot deep existing Federal project in the Arthur Kill South to Fresh Kills precludes the full loading of liquid and dry bulk cargo ships destined for shoreside facilities. This situation requires that large oceangoing vessels either light load at substantial loss of economy, or perform expensive lightering operations. Local interests in both New York and New Jersey request deeper channels to streamline operations, realize considerable transportation savings and enhance adjacent underutilized properties to accommodate additional facilities.

Six deep-draft bulk facilities along the Arthur Kill extension handle annual cargo in excess of 10 million tons. Petroleum, petrochemicals, specialty chemicals, sulphur and cement are carried in large modern vessels which could immediately benefit from substantial savings if the existing channels were deepened.

For these reasons it is requested that $250,000 be appropriated in Fiscal Year 1987 so a general investigation by the Corps of Engineers can start to address the navigation problems of the Arthur Kill South to Fresh Kills in anticipation of project authorization in pending water resources legislation.

BARNEGAT INLET, NJ

Barnegat Inlet is located on the Atlantic Coast of New Jersey in Ocean County. It is a busy inlet which records approximately 800,000 boat transits annually. We invite your particular attention to providing $6,000,000 in new construction funds to initiate construction of a new south jetty at Barnegat Inlet. This new jetty is required to correct channel shoaling, wave activity and dangerous navigation hazards which have contributed to the loss of 11 lives at the inlet during the period from 1979-1984. The proposed improvement plan, which includes dredging of the channel, will provide mariners safe access through the inlet and as designed, will reduce shoaling and maintenance dredging costs over the long term.

CAPE MAY INLET TO LOWER TOWNSHIP, NJ

The shoreline in Cape May and below Cape May has suffered severe erosion since the construction of the Cape May Inlet jetties in 1911. This has been to the detriment of the recreation industry and causes repetitive storm related damages.

The Corps has done advance engineering and has recommended a project to restore the damage caused by the Cape May navigation jetties. They have recommended that this work be done and we ask that this project, which provides for groins and beach fill be authorized and funded with $766,000 of Construction General Funds to permit the work to be undertaken.

COLD SPRING INLET, NJ

Cold Spring Inlet provides the access to the Atlantic Ocean for the fishing fleet which has made Cape May the second largest fishing port on the Atlantic Seaboard. The Inlet also is the entrance for Coast Guard craft which serve the Coast Guard Base and Training Center in Cape May. This Inlet is also important as a feature to support the recreation/tourism industry in Cape May.

Cold Spring Inlet is authorized as a 20' deep project. Current depths are under '3' and insufficient maintenance funding for FY'87 is provided even though a further deterioration of controlling depths can be forecast for this year. We urge that an additional $178,000 of Operation and Maintenance funds be provided for maintenance dredging for this project in FY'87.

DELAWARE RIVER IN THE VICINITY OF CAMDEN, NJ

We support the Corps of Engineers proposal to dredge a 37-foot deep approach channel to the Beckett Street Terminal facility in Camden and urge the provision of $2,650,000 of new construction funds for this project.

In recent years the South Jersey Port Corporation has invested $40 million to make their port terminals as modern and efficient as any break-bulk and dry-bulk cargo facility on the East Coast. This investment has been particularly important to our region because Camden is one of the most economically depressed urban areas of our country. The South Jersey Port Corporation marine terminal facilities provide a major economic contribution to the area by generating $30 million in Port related revenue and providing over 500 full-time jobs.

Unfortunately, their investment cannot be fully utilized because of the limitations on shipping activities caused by the present inadequate 30-foot deep vessel approach to the Beckett Street Terminal. This limitation has long been recognized and the planned deepening to the 37-foot level has been authorized since 1919, but has yet to be done.

To prevent any further delay in the implementation of this project, the South Jersey Port Corporation has entered into an agreement with the Corps to furnish the cost sharing desired by the administration for this work. We urge Congress to appropriate the $2,630,000 requested by the Corps of Engineers in order to facilitate this new construction start in FY'87.

DELAWARE RIVER COMPREHENSIVE NAVIGATION STUDY, NJ, PA & DEL

We also wish to support the President's proposed budget appropriation of $850,000 to continue the Delaware River Comprehensive Navigation Study to determine the potential need to deepen both the Maurice River and the Salem River in New Jersey. These study areas, have been found to be independent of the main channel, which were not covered by the interim report, and have been accelerated with sponsorship by the City of Salem and Cumberland County.

DELAWARE RIVER, PHILADELPHIA TO THE SEA, PA, NJ & DEL

This project is extremely important to the economic well being of southern New Jersey. The Camden-Gloucester area continues to harbor some of the most depressed areas in our state. The presence of the South Jersey Port Corporation, in Camden; Holt Terminals, in Gloucester City; and the Trailer Marine Transport Terminal, in Camden County are port facilities which are of significant importance to the economy of this region. For these reasons, New Jersey, together with our neighboring states of Delaware and Pennsylvania, supports the appropriation of $20,146,000 for the continued maintenance of the Philadelphia to the Sea 40-foot deep channel so that this project may continue to serve the entire Delaware Valley Region.

KILL VAN KULL AND NEWARK BAY CHANNELS, NY & NJ

A project of major importance to New Jersey is the Kill Van Kull and Newark Bay Channels Project. After more than 13 years of Corps study intermingled with various delays, this project is at last authorized for construction in the Fiscal Year 1985 Supplemental Appropriations Act (Public Law 99-88) and is further recommended for authorization in currently pending Federal port legislation, namely, H.R.6 and S-1567. The Port Authority of NY & NJ (PANYNJ) reconfirmed its 1978 intent to provide local cooperation for this project and also notified the Assistant Secretary of the Army for Civil Works of its willingness to participate in the required non-Federal cost-sharing for this project.

The proposed Federal Budget recommends $12 million in FY'87 as a start to a $291 million deepening of this project to a depth of 44-feet from its present depth of 35-feet. Given the long delay that has already occurred in realizing this improvement, the PANYNJ has requested the Corps to provide the urgently needed initial depth of 40 feet in two years. The latest estimated total cost of this depth is $145.4 million. Under cost-sharing the PANYNJ will provide 25 percent or $36.3 million during construction. The Federal Government's contribution is thereby reduced to $109.1 million or 75 percent.

The $12 million Budget recommendation appears to be seriously inadequate for completing a $109 million construction program in a reasonable period of time. Therefore, we urge a Federal appropriation of $50 million for FY'87 to be matched by the PANYNJ share of $16.7 million to achieve this two-year schedule.

NEW JERSEY INTRACOASTAL WATERWAY, NJ

The New Jersey Intracoastal Waterway (NJICW) has only been constructed to a 6-foot depth and is the most restrictive link in the Inland Waterway between New England and Florida. Although this project has been authorized for a 12-foot depth since 1946, it remains unconstructed due to unresolved and difficult wetlands and bridge problems, primarily in the Atlantic City and Longport New Jersey areas.

Nevertheless, this should not allow the entire NJICW to continue to suffer inadequate dimension throughout its 100 mile length. The numerous inlets to and from the Atlantic Ocean to the NJICW suggests that improvements in depth and width are warranted. An appropriation in the amount of $100,000 is required to initiate such a study and it is requested that the Congress approve this amount and authorize such a study.

Of particular importance to New Jersey with its multi-billion dollar resort industry is the NJICW. We wish to note that the $3,290,000 of Operations and Maintenance funds in the administration budget for this project is the mere minimum required to support the New Jersey link of the Atlantic Coast Inland Waterway and urge Congress to make this appropriation.

NEW YORK HARBOR AND ADJACENT CHANNELS, NJ & NY

This Department was pleased to see $200,000 included in the proposed Budget for the New York Harbor and Adjacent Channels Project in FY'87 to complete the final survey report for the Claremont Terminal and Port Jersey Channel. These studies, authorized by Congress in 1968 and 1980, respectively, were consolidated and initiated within this project to determine the feasibility of deepening the privately-maintained 24-foot deep Claremont Terminal and 35-foot deep Port Jersey Channels for commercial deep-draft navigation.

Although the proposed FY'87 funding will be sufficient to complete the final study report by the Corps of Engineers by June 1987, New Jersey requests the addition of $100,000 for Continued Planning and Engineering (CP&E) for the Port Jersey Channel, as well as $200,000 for Continued Planning and Engineering for the Claremont Terminal Channel. This added funding will allow these vitally important projects to continue without delay beyond the final survey report and into the next phase in an uninterrupted manner.

We are anxious for these projects to progress because of their significant impact on our region's economy. The Port Jersey Channel serves 13 container lines and handled more than 15% of the total container traffic in the New York and New Jersey Port District while providing on-site employment to 600 people. The 24-foot deep Claremont Terminal Channel presently employs 200 people from the region and handles in excess of 40% of the scrap metal shipped from the Port District annually.

As part of the New York Harbor and Adjacent Channels Project we also request an appropriation of $100,000 to revisit and study the feasibility of modifying the Ambrose and Anchorage Channels, which are also part of this project. The larger petroleum and petro-chemical deep-draft tanker vessels now in the world market are able to realize immediate savings by utilizing the naturally deep water of the Upper New York Bay Anchorage off Staten Island. Since the Corps of Engineers has authorized private interests to mine sand from its lower reaches to a depth down to 53 feet, an authority which could be extended upstream in the future, a deepening of this 45-foot Federal waterway to serve this anchorage would be considerably reduced in cost.

In summary, we ask that the Budget recommendation of $200,000 for the New York Harbor and Adjacent Channels Project be increased to $600,000.

NEW YORK HARBOR COLLECTION AND REMOVAL OF DRIFT, NY & NJ
With construction underway since 1976, this waterfront clean-up project is aimed at the removal of 2,230 sunken hulks and 149 decaying shore structures that are the sources of dangerous, unsightly and costly harbor drift.

The recommended appropriation of $4,600,000 is a welcome improvement to prior fiscal year appropriations for the project. However, in order to keep pace with local targets and the availability of local financial resources, we request that a modest $400,000 be added to allow for the completion of design work and the initiation of construction in additional areas which include Jersey City, New Jersey.

SALEM RIVER, NJ
I invite particular attention to the need to support the $718,000 in O&M funds for dredging the Salem River. This funding is needed to provide adequate depth and cooperate with local interests in the development and expansion of their port facility.

Since 1983 the Salem Port Authority, with local funds and a modest amount of matching monies, have bought a new port facility to South Jersey into being. This facility is now moving farm, seafood, lumber, frozen meat and scrap iron products in and out of Southern New Jersey. This port has been a positive influence on area businesses and provides a contribution to the U.S. need for more exports. The resourcefulness of the City of Salem should be recognized with this needed O&M appropriation.

# # #

We consider our overall request consistent with congressional efforts to reduce unemployment and stimulate economic growth. Delays in these waterway projects can cause higher port costs, loss of employment and terminal construction and slow future economic recovery. The area in which the above study projects are located is in need of economic stimulation and we hope you will favorably consider our recommendations.

On behalf of the Maritime Advisory Council, the civic, trade, port, labor and governmental organizations listed on the cover sheet of this statement which we represent and myself, let me thank you for the courtesy of presenting our recommendations to you. I will be pleased to try to answer any questions you may have.

BUDGETARY PROBLEMS

Senator COCHRAN. Thank you very much, Mr. Huerta.

We appreciate your presence and the testimony that you have provided.

Of course, it is obvious that the request that is being made of the committee is substantially in excess of the budget request. Let me also point out that we have another problem, and that is that the Budget Committee of the Senate is recommending that funding for water resource development projects be held at the current level which is substantially lower than the President's request.

We are going to be confronted with some tough decisions that will have to be made as we wrestle with, first of all, the budget resolution that has been reported out of the Budget Committee in the Senate. The $890 million level is the level they use for construction. This compares with about $1 billion for construction that the President is requesting for next year.

So you can see right away that there is already difficulty here in the Senate with respect to funding that may be available for these projects. But we understand the concerns you have and the fact that the accelerated construction schedule would be very helpful to move the commerce ~~in this~~ important area of our country.

We thank you for having the benefit of those statements and the description that you make of them. I don't have any other specific questions. I think you have done a good job in highlighting and illustrating the needs for the funds. We appreciate very much your being here. Thank you.

Mr. KIRK. Thank you, Mr. Chairman.

ADDITIONAL PREPARED STATEMENTS FROM PENNSYLVANIA-NEW YORK AREA

Senator COCHRAN. The subcommittee has received additional prepared statements from the Pennsylvania-New York area which will be incorporated in the record at this point.

[The statements follow:]

STATEMENT OF THE PENJERDEL COUNCIL

Introduction and Summary

FY 87 Funding of Navigation Projects of Interest to the Ports of Philadelphia

Good afternoon, my name is Robert Wonderling, Regional Affairs Manager for the PENJERDEL Council. The PENJERDEL Council is a tri-state association of commerce, industry, and the professions with membership throughout the Delaware Valley region.

The Council is concerned with the economic well-being of the PENJERDEL region, which includes 11 counties in segments of Pennsylvania, New Jersey, and Delaware. Of primary concern to the Council is the economic vitality of our ports. We continually advocate on behalf of this regional and national asset so that our ports will expand and serve the Delaware Valley and the entire United States.

Collectively, the Ports of Philadelphia handled 63.4 million tons of international cargo in 1985 -- This was an increase of 10% over 1984, and can be attributed to the improved channel conditions in the Delaware River. Continued, improved channel maintenance has enabled the Ports of Philadelphia to increase coal exports by 3.8 million tons in 1985. Over 5 million tons of autos, machinery, steel products, and other American goods have been exported via the Ports of Philadelphia in 1985.

The adequate channel depths have had a direct impact on customs receipts and our region's contribution to the economic health of the federal government.

In terms of national defense, the Philadelphia Naval Base and Shipyard rely on current channel conditions for access of our nation's fleet. Most recently, the U.S.S. Kittyhawk (SV-63) moved up our channel for an extensive 2-year overhaul and maintenance program, which will provide numerous ancilliary economic benefilts for the region.

The billions of dollars that are invested into the three-state waterfront rely on adequate channel depths. It is our understanding that there are sufficient funds contained in the Administration's FY 87 Budget for the Army Corps of Engineers to maintain current channel levels. Such assurances generate increased investment, contribute to the U.S. balance of trade through increased exports, and increase customs receipts for the Federal Treasury.

The PENJERDEL Council wholeheartedly supports the President's FY 87 budget as it relates to the navigation projects in the region.

Camden Waterfront

In conclusion, we point out that although we do not seek additional funding, we do urge action on the new construction project in the vicinity of Beckett Street Terminal, Camden, New Jersey.

Funds in the amount of $2,650,000 are provided in the Administration's FY 87 budget for an authorized deepening of the channel near Beckett Street to 37 feet. The South Jersey Port Corporation has already made a considerable investment in the project and it is imperative that it move forward.

On behalf of the PENJERDEL Council, we appreciate the opportunity to be heard and to present our views to the distinguished members of this committee.

Thank you.

Full Testimony

New Construction

Camden Waterfront

The project was adopted in 1910 and modified in 1930 and 1945. The President's FY 87 Budget allocates $2,650,000 for construction of an authorized 37-foot approach channel to Beckett Street Terminal, Camden, New Jersey. The Army Corps of Engineers has determined a benefit-cost ratio of 4.5 to 1 for the 37-foot approach channel.

The South Jersey Port Corporation and the state of New Jersey have invested $30 million in the Beckett Street Terminal. An additional $10 - $12 million of federal funds have been spent to construct a 40-foot berthing area. Pre-constrution planning and engineering are complete, and bids can be made for this project as soon as construction money is made available.

Currently, deepdraft vessels, which Beckett Street can accommodate, are denied access due to the inadequate depth of the approach channel. The 37-foot channel deepening will improve the capability of the Camden Port and enhance the area's dwindling economy through the expansion of operations and the creation of new jobs.

Local interests have agreed to comply with the Administration's requirements regarding cost-sharing. All conditions of local cooperation including required cost contributions that will exceed $1,000,000 will be met.

Such commitments and cooperation signify the importance of this project and the need that the appropriation of the $2,650,000 receive favorable action.

Operations and Maintenance

The proposed FY 87 Budget provides the U. S. Army Corps of Engineers with the following amounts for the operation and maintenance of the major authorized navigation projects in our area of interest:

Delaware River, Philadelphia to the Sea	$20,146,000
Delaware River, Philadelphia to Trenton	4,660,000
Schuylkill River	3,227,000
Wilmington Harbor	9,794,000
Chesapeake and Delaware Canal	21,096,000
Salem River, New Jersey	718,000
Total	$59,641,000

Delaware River -- Philadelphia to the Sea and Philadelphia to Trenton

We support the $24,806,000 appropriation for the combined Delaware River -- Philadelphia to the Sea and Philadelphia to Trenton projects.

The channel from Trenton to the sea is 120 miles long. The waterborne commerce generated along that channel provides over 90,000 jobs for the region, over $1 billion in business revenues, and $50 million dollars in local tax revenues.

Adequate funding will guarantee adequate channel depths, ease and access of waterborne commerce, and continued economic prosperity.

Schuylkill River

The $3,227,000 in the Administration's Budget is adequate to maintain navigable channels in the Schuylkill River.

Adequate channel depths allow for continued and increased grain exports from the Tidewater Grain Elevator, as well as provide access for vessels moving petroleum products to two major refineries.

Chesapeake and Delaware Canal

The $21,096,000 in the Administration's Budget is sufficient for the Army Corps of Engineers to provide adequate channel maintenance for this important link between the Ports of Philadelphia and Baltimore. The funds will insure a channel depth adequate to accommodate vessels with drafts up to 31 feet. Commerce through this canal amounts to 17 million tons per year and continued channel maintenance will insure growth of the busiest man-made sea-level canal in the United States.

Salem River

We endorse the President's FY 87 Budget Allocation of $718,000 for the channel between Salem, New Jersey and the Delaware River. Local interests have made considerable expenditures in recent years towards developing a port facility at Salem. An improved channel will enable the facility to export farm products from the Garden State both nationally and internationally.

Wilmington Harbor

The amount of $9,794,000 contained in the Administration's FY 87 Budget is adequate for the Port of Wilmington to maintain and expand operations.

The Port of Wilmington serves the city of Wilmington, the state of Delaware, and the entire PENJERDEL region. The activity of the Port provides an estimated 1,000 jobs and accounts for upward of $100 million in revenue for the state of Delaware.

Annual revenue increased in 1985 by 11.5 million, an increase of 18.6% over 1984. There has been considerable private and public investment in the facility with $20 million planned for future expansion. Appropriation of the budgeted amount will enable the Port of Wilmington to continue to expand and serve the Delaware Valley and the entire United States.

Navigation Studies

Delaware River Comprehensive Navigation Study

The PENJERDEL Council supports the $850,000 contained in the FY 87 Budget for continued study of navigation projects in the region. The comprehensive Navigation Study is an ongoing study that identifies those channel improvements that are necessary to maintain the Ports of Philadelphia as a viable, national economic asset.

Schuylkill River -- Mouth to Penrose Avenue

An ongoing interim study has analyzed navigation problems at the lower Schuylkill River associated with deepening the channel to a level that is consistent with the 40-foot Delaware River Channel.

Studies indicate that by deepening the channel from 33 feet to 40 feet from the mouth of the Schuylkill River to the Penrose Avenue Bridge, waterborne capabilities will be maximized. Specifically, the Tidewater Grain Terminal and the Chevron Oil Terminal would benefit from the deepened channel. In this context, we urge that $100,000 be added to the Administration's FY 87 Budget to expedite movement towards construction of this project.

STATEMENT OF NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

Mr. Chairman, and members of the Subcommittee, my name is Henry G. Williams. I am Commissioner of the New York State Department of Environmental Conservation.

The United States Army Corps of Engineers through the Civil Works Program has contributed to the growth of the Nation's economy. Federal investments in flood control and shore protection and erosion control facilities, navigation improvements and port and harbor projects have had a positive effect on commercial activity. They have protected the general welfare, health and safety of the country's citizenry.

Today the nation is evolving into a new era of construction need. It is one of maintaining and improving the economic foundation in which we have so diligently invested. Our infrastructure systems must maintain their level of effectiveness to insure efficient and reliable delivery of goods and services.

Revitalization of the country's economic foundations is nowhere more important than in the area of water supply. Water is integral to every aspect of economic activity. It is essential to guaranteeing safety for community populations. Our environment and our health require a sufficient quantity of good quality water. This complex water supply arena demands the attention of the Corps. In this regard, the public has come to expect a certain standard of performance from our system's infrastructure. Disruptions are not tolerated; maintenance needs are more complex. Better capital planning and management is required. These work items as well as the more traditional design and construction expertise of the Corps of Engineers are urgently needed to insure adequate water supply. We envision a federal, state and local partnership to advance these needed improvements.

In this regard, New York State is moving to identify the precise nature and dimension of the water system infrastructure problem. Water resources strategies by 13 substate regions are being prepared. Preliminary findings show that the extent of the problem is enormous, totaling $10.9 billion. The estimate does not include the water supply source needs for the metropolitan New York area. It is premature to make cost estimates for this area now because of the likely impact of the measures required to combat the effects of a drought, an event of which you are surely well aware. Its impacts have been staggering. The lack of water has put in jeopardy the commercial and financial hub of the Nation. We cannot let it fall captive to an inefficient and ineffective water operating system. The drought that adversely affected southeastern New York last year, as well as the 1980-81 drought has occasioned the re-evaluation of water supply needs in the area. This effort is being led by New York City.

In fact, New York City has established a task force of federal, state, and local officials to identify water supply alternatives and demand management options. We, as well as the Corps of Engineers, have participated on the Task Force. The Corps of Engineers has existing authority to ~~participate~~-in this effort but needs additional funding to allow a better definition and resolution of the metropolitan New York Water Supply problems.

Today, I want to highlight two PL 89-298 programs which have been very important in helping us in our efforts to provide adequate water supply and delivery systems for our citizens. Their sufficient funding would help our efforts to combat the effects of the drought.

First, the Section 214 program has enabled us to develop fundamental information about the condition of our water supply infrastructure in large and small communities throughout the state. We are requesting $1.5 million for FFY-1987 under the Section 214 program. It would be used to help us determine the solution to our current water system infrastructure dilemma. Second, the Northeast Water Supply Study, called (NEWS), has explored water supply needs of the New York metropolitan area, the lower Hudson Basin, and adjacent watersheds. We need $1 million in federal funds in FFY 87 to advance the recommendations of the NEWS study and the Corps of Engineers action plan related to it.

We must note, however, that the NEWS study which was completed in 1977, proposed further evaluations that would focus on issues relating to new source developments. These issues include reassessment of the water supply deficit in view of recent drought experiences and changed population and growth projections, re-evaluation of a number of alternative solutions to environmental problems, and preliminary work related to the third city water tunnel. This is more urgently needed now because of the area's water shortage.

Nine years have passed and the additional evaluations called for in the NEWS Study have yet to be initiated. Funding for these additional studies, and for review by the Corps of Engineers for construction drawings of City Tunnel #3, pending furthe. federal involvement, is needed now. Costs for this initial study are estimated at $15 million, of which we are requesting $1,000,000 for FFY 1985.

In addition, we have a list of 18 specific projects or studies which are very important to New York State. Six of these are included in the President's proposed budget at levels which are insufficient to do the job properly; even worse, no funds at all have been budgeted for the other 12 projects. I respectfully and strongly request an additional $46 million to adequately address the modest program of civil works which these 18 projects represent. (The projects are shown on the attached table.)

Flood Control

Damaging floods occur in some portion of New York virtually every year. It is estimated that 1.5 million people live in the nearly 1500 flood-prone communities in the State. Average annual flood damages are conservatively estimated at $100 million. New York State vigorously promotes participation in the National Flood Insurance Program. Even so, only a small fraction of flood losses are covered by insurance. The Corps of Engineers' Flood Protection programs play a vital role in helping to combat New York's flood problems. The proposed civil works funding levels fall far short of the needs in New York.

New York State supports funding of all projects as they appear in the budget except for the St. Lawrence Seaway Additional Locks Study as discussed elsewhere and where funding levels are inadequate. Requests for increased levels of funding are discussed in the following paragraphs and in the attached table.

Ellicott Creek.

Major flooding along Ellicott Creek in February of 1985 resulted in damages in excess of $3 million in the Town of Amherst. These damages would have been prevented if the Ellicott Creek Flood Protection Project was completed and functioning. The state has committed, to date, in excess of $2 million for lands and relocations and has completed construction of a major segment of the project in conjunction with highway construction. The state strongly supports funding in the amount of $3 million for construction of the first segment of this project. Completion of the first segment is urgently needed to allow the already constructed North Division Channel to function.

The Ellicott Creek project is New York's highest flood control priority for initiation of construction.

Fire Island Inlet to Montauk Point Reformulation Study

During 1978 the President's Council on Environmental Quality required the Corps of Engineers to reformulate this hurricane protection project. After eight years and the expenditure of $4.7 million, this study is incomplete; and no funds have been included for study continuation in the FY 87 budget. Without completion of the study, there can be no basis for future planning and project development by Federal or non-Federal interests. Without bringing the study to a reasonable level of completion, the majority of the $4.7 million already expended will be largely wasted. New York strongly requests an appropriation of $1.5 million to bring the study to a reasonable level of completion and that Congress direct the Chief of Engineers to complete the study.

Dansville

Again this year, no funds are included in the budget for construction of the Dansville Flood Protection Project because neither the Village of Dansville nor the State of New York would yield to coercive pressures by the administration to contribute to the construction costs above the level mandated by Congress. An appropriation of $500,000 is urged to initiate construction of this project.

Westchester County Streams - Mamaroneck and Sheldrake Rivers

An appropriation of $750,000 rather than the budget amount of $350,000 is urgently needed to advance the completion date of the design document. This project in the Village and Town of Mamaroneck and the Town of Sheldrake is the most critically needed project in Westchester County.

Westchester County Streams - Byram River

An appropriation of $300,000 is requested for continued planning and engineering for the highly vulnerable communities of Port Chester, New York, and Greenwich, Connecticut.

South Ellenville

An appropriation of $100,000 is requested for surveys and planning of a needed flood control project in the Village of Ellenville.

Navigation

Kill Van Kull and Newark Bay Channels Project (Construction)

Of the projects underfunded in the President's budget, none has a higher priority than the Kill Van Kull and Newark Bay Channel project. An additional $38 million is needed to improve the navigation through this vital water artery and to stimulate the growth of the commercial industrial sector that depends on it.

The proposed Federal Budget recommends $12 million in Fiscal Year 1987 as a start to a $291 million deepening of this project to a depth of 44 feet from its present depth of 35 feet. Given the long delay that has already occurred in realizing this improvement, we have requested the Corps to provide the urgently needed initial depth of 40 feet in two years.

The existing 35-foot Channel caused the grounding of a large containership. This is a critical-factor in this project. The $12 million Budget recommendation appears to be seriously inadequate for completing a $109 million construction program in a reasonable period of time. The project calls for a widening of the junction of Newark Bay and the Kill Van Kull which is also used as a turning basin. It is essential that this improvement is completed in two years.

This is a matter of highest priority. Thus, we urge a Federal appropriation of $50 million for Fiscal Year 1987 to be matched by a non-federal share of $16.7 million to achieve this two-year schedule.

New York Harbor Collection and Removal of Drift Project (Construction)

With construction underway since 1976, the New York Harbor Collection and Removal of Drift Project (Waterfront Cleanup) is aimed at the removal of 2,230 sunken hulks and 149 decaying shore structures that are the sources of dangerous and costly harbor drift.

The recommended appropriation of $4,600,000 is an improvement. However, to keep pace with local targets and the availability of local financial resources, we request that a modest $400,000 be added, to allow for the completion of design work, and the initiation of construction in additional areas, for a total of $5,000,000.

Arthur Kill Channel Project (Study)

The Arthur Kill Channel Project will deepen the existing 35-foot deep channel to 41 feet to the Howland Hook Marine Terminal, and to 40 feet from the Howland Hook Marine Terminal to the major private users, the Exxon refinery in Bayway and the Gulfport Terminal on the Staten Island shoreline. The cost for these improvements has been estimated at $51 million in January 1985 dollars. An increase in study funding from $500,000 to $700,000 is needed to insure the timely completion of the project.

CIVIL WORKS PROGRAM

REQUESTED ADDITIONAL FUNDS FOR FISCAL YEAR 1987

PROJECT	TYPE	STAGE	FUNDS BUDGETED ($1000's)	FUNDS NEEDED ($1000's)	ADD'L FUNDS REQ. BY NYS ($1000's)
FLOOD CONTROL & BEACH EROSION					
Weschester County Streams - Mamaroneck & Sheldrake	FC	CP&E	350	750	400
Westchester County Streams - Bryam River	FC	CP&E	0	300	300
South Ellenville	FC	AE&D	0	100	100
Hoosic River, Mass., Vt. & NY	FC	Survey	0	230	230
Fire Island to Montauk Pt.	BE	Reform	0	1,500	1,500
Rockaway Inlet to Norton Pt. - (Coney Island area)	BE	Surveys	0	300	300
Dansville	FC	Construction	0	500	500
Tonawanda Creek	FC	Surveys	0	300	300
			350	3,980	3,630
NAVIGATION					
Arthurkill Channel - Howland Hook - Marine Term.	N	Surveys	500	700	200
Kill Van Kull & Newark Bay Channel - NY & NJ	N	Construction	12,000	50,000	38,000
Shinnecock Inlet	N	ADV. E&D	200	500	300
Gowanus Cr. Channel	N	CP&E	0	190	190
Fire Island Inlet	N	O&M	0	2,400	2,400
Buffalo Harbor	N	O&M	1,638	3,638	2,000
Dunkirk Harbor	N	O&M	0	275	275
Great Sodus Bay Harbor	N	O&M	0	220	220
Fire Island Inlet Jetty Reconstruction	N	Construction	0	2,000	2,000
NY Harbor Collection and Removal - of Drift	N	Construction	4,600	5,000	400
			18,938	64,923	45,985

ARKANSAS RIVER BASIN PROJECTS

STATEMENT OF JAMES FOSTER, CHAIRMAN OF THE ARKANSAS RIVER BASIN INTERSTATE COMMITTEE

ACCOMPANIED BY:

TOMMY THOMSON, CHAIRMAN, INTERSTATE COMMITTEE FOR COLORADO

WALTER GIERINGER, CHAIRMAN, ARKANSAS INTERSTATE COMMITTEE

Senator COCHRAN. We now have on the agenda the Arkansas River basin projects. Mr. James Foster is chairman of the Interstate Committee who was introduced by Majority Leader Dole earlier in the hearing. If there are others who are here, Mr. Tom Jolly, executive vice president of the Arkansas Basin Development Association and any others who are here in support of the project, we ask that you come forward.

We will turn it over now to Mr. Foster. You may proceed.

Mr. FOSTER. Thank you very much, Mr Chairman.

We wish to thank you for this opportunity to appear before the committee and make our requests and recommendations known. On my immediate right is Walter Gieringer, who is chairman of the Arkansas Interstate Committee; on my left is Tommy Thomson, chairman of the Interstate Committee for Colorado.

Our interstate committees are made up of five members appointed by the Governors of each State. They meet once a year to compare their statements and prepare an overall statement from the basin for this committee. We hope that you will consider our recommendations, and we will not go into each State's statement. It is attached to our statement that we are making at this time.

We have two parts to our statement. One is sort of a policy matter; the other has to do with construction.

The first part, the policy statement, addresses a couple of problems which we believe that many Members of Congress and a lot of the noted economists throughout the United States have agreed that the next major crisis for this Nation will be a water crisis. We recommend that you give every consideration to averting any such crisis for our Nation.

McCLELLAN-KERR NAVIGATION SYSTEM

We would like to also call to your attention that the Interstate Committee urges continuation of the construction authority for the McClellan-Kerr Waterway navigation system until the eight remaining problems identified by the Corps of Engineers have been satisfactorily resolved. The experimental station at Vicksburg is still studying some solutions on these problems, and they will be forthcoming.

COST SHARING ON PROJECT CONSTRUCTION

Also, we urge that Congress recognize on the cost-sharing situation—which we agree there must be cost sharing—but No. 1, that the existing danger of a water crisis should be taken into consideration and that all necessary action be taken to avoid this crisis. An established water plan which recognizes the importance of water development to the economies of our States, of course, is also recommended.

We believe that a cost-sharing program should be developed to encourage development of water resources in all areas of our country and not just those particular parts of the Nation which can afford the upfront financing. There are areas which need assistance all over our Nation, and we recommend that that be given consideration.

We also acknowledge the fact that we have serious financial expenditure problems, and we urge that the water situation be given special consideration because in the future, it looks as though there will be very sizeable expenditures, and, of course, water is very important to all areas. It is one of the things that enhances and expands the tax base of all areas of our country. The reduction of flood damage alone in our area has saved millions and millions of dollars and loss of useful and productive land.

We wish to thank you very much for the time you have afforded us. We look forward to working with you and your colleagues in the development of policies and programs for 1987 and beyond which will benefit our Nation at large.

Thank you, Mr. Chairman.

Senator COCHRAN. Thank you very much, Mr. Foster.

Are there any comments or additions from any of the others who are with you?

Mr. THOMSON. Senator Cochran, one item I might mention to you, and that would be support of the Congress for the development of off-channel harbors, either under the regular feasibility or under section 107 by the Corps of Engineers. The development and funding of off-channel harbors is essential to the continued development of navigation along our inland waterways.

Senator COCHRAN. Thank you.

I noticed in your comments you referred to the cost-sharing requirement and the concern you have that this might make it impossible for some of the less wealthy or poorer areas of the country to participate in the Federal construction program. I share that concern, coming from Mississippi. We have a lot of projects that are still on the drawing boards and in the planning stage that haven't actually begun, and we worry that the newly passed authorization bill will make it more difficult to see those projects to completion.

I might point out that there is a provision that has been written into the Senate bill that provides for some flexibility and discretion in that area, so that we are hoping that it won't be just the wealthy communities that will be able to participate in the Federal program, but those areas of genuine need will also be able to have their projects funded, too, with a spacing out of payment and other techniques that can be used to help make it feasible for these communities to participate in the construction program.

But that is a concern that is very real, and we are just going to have to do the best that we can if that bill is signed into law.

Mr. FOSTER. We just urge that each project be taken on its own merits.

Senator COCHRAN. That is a good point, and we will certainly consider that, too.

Thank you very much for being here and for this group being so well represented.

Mr. FOSTER. Thank you.

Mr. THOMSON. Thank you, Mr. Cochran.

[The statement follows:]

Statement of the Arkansas River Basin Interstate Committee

ARKANSAS-COLORADO-KANSAS-MISSOURI-OKLAHOMA

Mr. Chairman, I am James O. Foster from Wichita, Kansas, Chairman and spokesman for the Arkansas River Basin Interstate Committee. It is indeed our pleasure and honor to appear before you and the distinguished members of your Committee today.

The Arkansas River Basin Interstate Committee consists of five delegates from each of the states of Arkansas, Colorado, Kansas, Missouri and Oklahoma, who were appointed to represent those respective states by their Governors. It is their responsibility to coordinate water resource matters among the states, and to speak for the Arkansas River Basin in appearances before Committees of Congress and Regulatory Agencies. The Committee held its Annual Meeting in Tulsa, Oklahoma on March 6, and carefully reviewed policy and water project matters which had been previously considered by the individual states.

I am accompanied here today by members of the Interstate Committee, and without taking the time to introduce them, I would appreciate the opportunity to have them stand as a group, attesting to their unified support for our presentation. These gentlemen devote countless hours working on water resource matters in the individual states, and work harmoniously to coordinate programs which will enhance the economic viability in the entire Arkansas River Basin.

The first part of our statement has to do with policy matters and the second is to support continued construction of vital water resource management projects in the five Basin states. We feel it is absolutely essential, Mr. Chairman, to call these policy matters to attention of this Committee, because we agree with members of the Congress and noted economists throughout the Nation who warn that the next major crisis which will face this country will be a water crisis. Many feel it will make the energy crisis of the 1970's appear simple by comparison.

CONTINUATION OF THE CONSTRUCTION AUTHORITY FOR McCLELLAN-KERR ARKANSAS RIVER NAVIGATION SYSTEM.

The Interstate Committee urges the continuation of authority for the McClellan-Kerr Arkansas River Navigation Project until the eight remaining problems identified by the Little Rock District Corps of Engineers have been satisfactorily resolved.

Low water levels of the Mississippi River have adversely affected navigation on the Arkansas which was not anticipated in the design anticipated in the design of the Arkansas Navigationway, but which have occurred due to deep degradation of the Mississippi. The Corps' Waterway Experiment Station at Vicksburg is still studying solutions to the problem.

NON FEDERAL COST SHARING

The Arkansas Basin Development Association, a volunteer organization which represents the five Arkansas River Basin States, unanimously adopted a statement in regard to non federal cost sharing. This policy statement has been given serious consideration by the Interstate Committee members, and we respectfully urge that this Congressional Committee carefully consider the recommendations as you develop policies for funding of absolutely essential water resource projects.

The ABDA urgently requests that Congress (1) recognize the existing danger of a national water crisis and take all actions necessary to avoid such a crisis; (2) establish a national water policy which recognizes the importance of water in the development of all aspects of our economy; and (3) develop a cost-sharing program which will encourage the development of the water resources in all areas of our country, not just in those parts of the nation which can afford up-front financing.

Finally, Mr. Chairman, we strongly support the statements of the individual states, wherein they request adequate funding for planning and construction of vital projects. Some recommendations are for the appropriations requested by the Administration in their 1987 budget requests and other states request funding for the full capability of the Corps and the Bureau. These recommendations are made with the full knowledge of the serious financial problems facing the Nation, and the strong desire to reduce federal expenditures wherever possible. We agree with that policy, but as mentioned in the beginning of my testimony, we do feel that the Nation is facing a very serious water supply problem. Funds invested today for multipurpose water projects will save sizeable expenditures in the future, and also enhance the tax base throughout the entire nation. The reductions in flood damage alone will save the federal and state governments millions of dollars and will help keep the water where is can be productively used.

Thank you very much, Mr. Chairman, for affording us this time, and we look forward to working with you and your colleagues as you develop water policies and programs for 1987.

THE ARKANSAS RIVER BASIN INTERSTATE COMMITTEE

FROM ARKANSAS:

W. A. Gieringer, Pine Bluff-Jefferson County Port Authority, Pine Bluff, AR - (State Chairman)
Wayne Bennett, Farmer and Businessman, Lonoke, AR
Charles Maynard, Sr., Vice President, Union National Bank of Little Rock, Little Rock, AR
Douglas W. Parker, Attorney, Ft. Smith, AR
Charles Steel, Sr., Vice President, Arkansas Power and Light Company, Little Rock, AR

FROM OKLAHOMA:

Houston Adams, Commissioner-Elect Water and Sewer Department City of Tulsa, OK - (State Chairman)
E. R. Albert, Jr., Albert Equipment Company, Tulsa, OK
Robert S. Kerr, Jr., Oklahoma Water, Inc., Oklahoma City, OK
Harold B. Scoggins, Muskogee, OK
Fred G. Turner, Consultant, McAlester, OK

FROM KANSAS:

James O. Foster, Business Management Coordinator, Boeing Military Airplane Company, Wichita, KS - (State Chairman) (Chairman of Interstate Committee)
Roger Brown, President, Home National Bank, Arkansas City, KS
Frank W. Liebert, Attorney, Coffeyville, KS
Taylor Peckham, Peckham Insurance Agency, Augusta, KS
Arthur T. Woodman, Woodman-Architects, Wichita, KS

FROM COLORADO:

Charles L. Thomson, General Manager, Southeast Colorado Water Conservancy District, Pueblo, CO - (State Chairman)
Lee H. Hancock, The High Line Canal Co., Rocky Ford, CO
John Javernick, Farmer and Rancher, Canon City, CO
William McDonald, Director, Colorado Water Conservation Board, Denver, CO
Ray D. Nixon, Colorado Springs, CO

FROM MISSOURI:

Gale A. Graham, Realtor, Charles Burt, Inc., Realtors, Joplin, MO - (State Chairman)
Ted B. Evans, Southwest Missouri Bank, Carthage, MO
Douglas Mahnkey, Attorney, Forsyth, MO
R. Layne Morrill, Realtor, Shepherd of the Hills Realty, Kimberling City, MO

STATEMENT OF WALLACE A. GIERINGER, ARKANSAS CHAIRMAN, ARKANSAS RIVER BASIN INTERSTATE COMMITTEE

Mr. Chairman and members of the Committee, my name is Wallace Gieringer. I serve as Executive Director of the Pine Bluff-Jefferson County Port Authority and Arkansas Chairman of the Interstate Committee. Other Committee members representing Arkansas are Messrs. Wayne Bennett, farmer from Lonoke; Charles Maynard, banker from Little Rock; Douglas W. Parker, attorney from Fort Smith; and Charles L. Steel, electric utility executive from Little Rock. We fully endorse the statement presented to you today by the Chairman of the Arkansas River Basin Interstate Committee.

We strongly believe federal water resource investments serve as "investment seeds" which are a catalyst for self-sustaining investment of private capital in achieving long-term economic growth of our nation. Let us identify certain projects vital to the economic well-being of our area. We recommend and wish to emphasize the necessity of the following:

* support for all funding for the Corps of Engineers which has been included in the President's budget for the McClellan-Kerr Arkansas River Navigation System;

* continuation of authority for the McClellan-Kerr Arkansas River Navigation Project until the eight remaining problems identified by the Little Rock District Corps of Engineers have been satisfactorily resolved;

* funding to continue the urgently needed Arkansas River Basin Study to resolve problems related to navigation as well as flood reduction and municipal, industrial and agricultural water supply;

* your support of Corps authorization and funding of off-channel harbors in accordance with "Economic and Environmental Principles and Guidelines For Water and Related Land Resources Implementation Studies" (dtd March 1983) for regular feasibility and Section 107 navigation projects;

* funding the North Little Rock, Arkansas, flood control study and the Arkansas River Basin Chloride Control study;

* your insistence that hydropower development along the waterway be with Corps' control of design, construction and operation; and

* funding the Corps for an operational study to develop a model to be used to establish the amount of water available for power at each lock and dam in order that the Corps may insure that water needed to maintain the authorized navigation will be available.

We continue to share your concern about decreasing the absolute level of the Federal Budget. At the same time, we are concerned that with expanded non-federal cost-sharing requirements only wealthy communities will be able to participate in federal programs. The poorer areas with real need, and often with greatest potential for growth, will be unable to participate because they can't meet high and unrealistic cost-sharing requirements.

We thank you for the opportunity of speaking to you today and urge you to favorably consider our requests.

STATEMENT OF CHARLES L. THOMSON, GENERAL MANAGER, SOUTHEASTERN COLORADO WATER CONSERVANCY DISTRICT

Mr. Chairman, and members of the Committee, my name is Charles L. Thomson, and I am General Manager of the Southeastern Colorado Water Conservancy District, with headquarters in Pueblo, Colorado. I submit this statement today in behalf of the other four members of the Colorado delegation, who were appointed by our distinguished Governor, the Honorable Richard D. Lamm. My colleagues are: Mr. John E. Javernick, farmer and rancher from Canon City, representing the Upper Arkansas Basin in Colorado; Mr. Lee Hancock, retired Superintendent, High Line Canal Company near Rocky Ford, a farmer representing the Lower Arkansas Basin; Mr. William McDonald, Director, Colorado Water Conservation Board, and Mr. Raymond D. Nixon, retired Executive Director, Department of Public Utilities for the City of Colorado Springs, representing the municipal and domestic water users in the basin. We are truly honored today, Mr. Chairman, to join our colleagues from the other great States of Arkansas, Missouri, Oklahoma and Kansas, who make up the Arkansas River Basin Interstate Committee, and appear before you as a unified group respectfully requesting appropriations for necessary water resource projects in our five states.

The members of the Colorado delegation respectfully recommend the approval of the appropriations budget submitted by President Ronald Reagan for the U.S. Army Corps of Engineers and the U.S. Bureau of Reclamation Projects in the State of Colorado. Mr. Reagan recommends the following for continued construction on the Fryingpan-Arkansas Project in FY 1987:

Construction	$5.513 million
O & M	$1.824 million

The construction funds provide for the removal of temporary dikes at Twin Lakes Reservoir, and will permit essential construction to continue on recreation facilities and a new fish hatchery complex and permanent operating facilities at Pueblo Reservoir. Pueblo Reservoir has become one of the most heavily used water recreation areas in Eastern Colorado, due to the fact that similar facilities in the Denver Metropolitan area are unable to accommodate the increasing population, and people from that area and Colorado Springs are regular boaters, fishermen, campers and sightseers. The fish hatchery, which is well under construction, is absolutely essential to not only meet the ever growing demands at Pueblo Reservoir and other Fry-Ark Project facilities, but also other reservoirs and streams in the State of Colorado. Recreation is truly one of Colorado's most important industries, and attract people from all over the United States and the world.

We also respectfully recommend the appropriations in the budget submitted by President Reagan for the U.S. Army Corps of Engineers, which includes:

Arkansas River above John Martin Dam --------------------------- $735,000

This will provide funds for continued surveys of essential flood control and water management projects in the area above the Colorado-Kansas Stateline, and the City of Pueblo. This is an area that is always vulnerable to devastating floods, and the Corps of Engineers is working cooperatively with the State of Colorado and local irrigation companies to develop plans to prevent floods and provide better management of the waters.

Fountain Creek and Tributaries North of Pueblo -------------------- $210,000

This is an area between the Cities of Colorado Springs and Pueblo, which is also vulnerable to devastating floods. The massive flood of 1965 originated in this area, and the Corps is presently working with the City of Colorado Springs, and other governmental entities in the area, to develop plans for programs and projects which will alleviate such floods in the future.

Fountain Creek Flood Control Project at Pueblo

Mr. Chairman, last year Mr. Reagan requested $1.36 million, and designated this one of 12 new starts for FY 1986. We strongly recommended the appropriation of that amount of money, because the City of Pueblo had agreed to the essential cost sharing, and the project is absolutely essential to prevent serious of loss of property and human life in downtown Pueblo if it is not constructed. Your Committee supported our request, and other appropriate Committees of the House included the project in the Authorizing Legislation later in the year. We regret that similar action was not taken in the Senate, but we are pleased that the project is included in legislation being considered by the Senate at this time, and we urge that this project be included in the Conference Committee final report.

We understand that the Corps of Engineers has retained a capability of $1.36 million to initiate the project when it is authorized by the Congress, and final arrangements for cost sharing are worked out with the appropriate governmental agencies in Colorado. We feel, Mr. Chairman, that this particular project fits into the cost sharing philosophies of the administration, and will be an excellent example of the ability of the Corps of Engineers and local agencies to construct a much needed multi-purpose flood control project.

John Martin O & M	$1.060 million
Trinidad Lake O & M	$519,000

Mr. Chairman, and members of this very distinguished Committee, we again want to thank you for the sincere and dedicated manner in which you have permitted those of us who deal in water resource management on a day to day basis to appear before you to present our recommendations regarding appropriations for water resource projects in the five Arkansas River Basin States. You, and those who have served on this important Committee in the past, have created an enviable record in appropriating necessary funds down through the years, which have created dams, reservoirs and waterways, and other means of conveyance for necessary water supplies, which have made the United States great. We would dread to think what this country would be like, both environmentally and economically, had it not been for your wisdom and dedication. We truly hope this philosophy will continue in the years to come when the needs may not be there for massive projects as in the past, but for projects such as are described and requested in our testimony today.

STATEMENT OF JAMES O. FOSTER, CHAIRMAN, KANSAS INTERSTATE COMMITTEE FOR THE ARKANSAS RIVER BASIN

Mr. Chairman and members of the Committee, my name is James O. Foster. I am Business Management Coordinator for the Boeing Military Airplane Company, Wichita, KS and Chairman of the Kansas Governor's Interstate Committee for the Arkansas River Basin. I am pleased to submit this statement today on behalf of myself and the other members of the Kansas Delegation who were appointed to represent the State of Kansas by the Honorable John Carlin, Governor.

My colleagues are Mr. Arthur T. Woodman, Architect, Wichita; Mr. Frank Liebert, Attorney-at-Law, Coffeyville; Mr. Roger Brown, Bank Executive, Arkansas City; Mr. Taylor Peckham, Insurance Executive, Augusta, Kansas. We are honored to join with our colleagues from the great State of Arkansas, Colorado, Missouri, and Oklahoma in appearing before you today to put forth our views on the appropriations and projects in Kansas and the Arkansas River Basin.

The Appendix lists the projects in the Kansas portion of the Arkansas River Basin. The figures are those in the President's budget which the Kansas Interstate Committee fully agree with and request that funding be granted.

I would like to call your attention to two construction projects which are particularly important to Kansas. The Great Bend Flood Control Project is most important to stop flooding of a major city in the western portion of Kansas. The Halstead Project is also an important project because Halstead is vital to the surrounding areas. This city contains a major regional hospital which provides medical services to the surrounding farming community. S. 1567 which is now making its way through Congress contains funding for both the Halstead and Great Bend projects. I would also like to call your attention to the Douglass Lake Project which is important because it contains the possibility of being a major municipal and industrial water supply in the future. It could assist not only the City of Douglass; but also Augusta, Newton, Winfield, and Arkansas City with a critical water supply for their continued growth. Growth of South Central Kansas could well depend on the Douglass Lake Project.

Mr. Chairman and members of the Committee, we wish to thank you for the sincerely dedicated manner in which you and your distinguished colleagues in the congress of the United States have dealt with the Water Resources Programs in allowing us to present our views and recommendations to you. We look forward with great expectations and hope for the future of water resource development in Kansas; with your assistance, it can be achieved.

KANSAS INTERSTATE COMMITTEE RECOMMENDATIONS
FISCAL YEAR 1987
ARKANSAS RIVER BASIN IN KANSAS

Project	Type of Project	Surveys	Advance Engn and Design	Construction	Operations & Maintenance
Kansas					
Arkansas River & Tribs. Great Bend, KS to Tulsa, OK	FDP	600,000			
Blue River Basin, KS	FDP	200,000			
Clinton Lake, KS	FC				1,198,000
Council Grove Lake, KS	FC				702,000
Douglass Lake, KS	FC		265,000		
El Dorado Lake, KS	FC				415,000
Elk City Lake, KS	FC				560,000
Fall River Lake, KS	FC				645,000
Grand Neosho River, KS	FDP	600,000			
Great Bend, KS	FC			2,600,000	
Halstead, KS	FC			1,100,000	
Hillsdale Lake, KS	FC				581,000
John Redmond Dam & Reservoir, KS	FC				875,000
Kanopolis Lake, KS	FC				1,670,000
Marion Lake, KS	FC				691,000
Melvern Lake, KS	FC				1.187,000
Milford Lake, KS	FC				1,784,000
Pearson - Skubitz Big Hill Lake, KS	FC				713,000
Perry Lake, Ks	FC				1,284,000
Pomona Lake, KS	FC				1,088,000
Toronto Lake, KS	FC				238,000
Turkey Creek Basin, KS	FDP	310,000			
Tuttle Creek Lake, KS	FC				2,990,000
Wilson Lake, KS	FC				1,707,000
Winfield, KS	RDP	50,000			

STATEMENT OF GALE A. GRAHAM, MISSOURI CHAIRMAN, ARKANSAS RIVER BASIN INTERSTATE COMMITTEE

Mr. Chairman and members of the Committee, I am Gale A. Graham, retired banker and active Realtor from Joplin, Missouri. I am chairman of the Missouri members of the Arkansas River Basin Interstate Committee. My colleagues are: Mr. Ted B. Evans, banker from Carthage, Missouri; Mr. Douglas Mahnkey, Attorney from Forsyth, Missouri; and Mr. Layne Morrill, Reltor from Kimberling City, Missouri. We represent the Southwest corner of Missouri, which is part of the Arkansas River Basin. We are honored to join our colleagues from Arkansas, Kansas, Oklahoma and Colorado in appearing before you and certainly appreciate the time afforded us to testify collectively in support of appropriations for projects along the entire reach of the Arkansas River.

We requesst the Planning for Prosperity Lake continue and we suport and urge your favorable consideration on all the projects in the Arkansas River Basin as listed on the appropriation request summary which is being presented today by the Chairman of the Arkansas River Basin Interstate Committee.

We have testified each year for many years concerning the importance of water resource management projects in the Arkansas River Basin and many others which are in the overall interest of the people in our area.

We are greatly appreciative of your consideration of our needs in the past and solicit your favorable consideration of the request as presented here today, and we sincerely thank you for the opportunity to present them.

STATEMENT OF HOUSTON ADAMS, OKLAHOMA CHAIRMAN, ARKANSAS RIVER BASIN INTERSTATE COMMITTEE

Mr. Chairman and members of the Committee, I an Houston Adams, Commissioner-Elect of the Wate and Sewer Department of the City of Tulsa and Oklahoma Chairman of the Arkansas River Basin Interstate Committee, from Tulsa, Oklahoma.

It is my privilege to present this statement on behalf of the Oklahoma members of the Committee in support of adequate funding for water resource projects in our area of the Arkansas Basin. Other members of the Committee appointed by our Governor, the Honorable George Nigh, are: Mr. E. R. Albert, Jr.; Mr. Robert S. Kerr, Jr.; Mr. Harold B. Scoggins, and Mr. Fred G. Turner.

Together with representatives of the other Arkansas Basin States, we fully endorse the statement presented to you today by the Chairman of the Arkansas River Basin Interstate Committee.

We appreciated the opportunity to present our views of the special needs of our State concerning several studies and projects.

We are pleased that the President included in his budget message for FY 1987 $5,900,000 in funds for the continued construction of Arcadia Lake, Oklahoma, and the $2,000,000 in comprehensive and flood damage prevention studies on the Arkansas river and tributaries. We urge that on authorized projects in Oklahoma, the study capability of the Corps of Engineers be funded in order to complete or to advance study completion.

We support all of the appropriation requests in the Federal Budget for the Arkansas River Basin.

There are seven projects omitted from the Federal Budget that, in our opinion, are critical to the continued development of water resources in Oklahoma. We are requesting the Committee add the projects and funding outlined herein.

After years of delay on new project authorizations, we again express our concern that many recommended projects will not be funded due to the lack of "up front" funding by local interests and, therefore, deleted from the budget request.

We again urge flexible financing arrangements that allow a partnership of federal, state and local governments with the private sector, and "fair share" determinations made based on the project involved. Realistic cost allocations must be developed based on intermodal equity and public value aspects considered in order to arrive at the "fair share." The Federal Government must join as a major partner in planning, design and construction.

Another concern is that the large-scale design, engineering, and construction management capabilities of the Corps of Engineers is deteriorating due to the lack of new starts which materially affects their preparedness for their role in mobilizing for a national emergency.

We appreciate the concern the Subcommittee has shown in the past regarding a drastic reduction in funding water resource development in this country. We support and encourage continued water development in to order to assure adequate resources for America's future growth and prosperity.

Pending authorizing/financing legislation is in many ways encouraging. However, if the cost of new project authorizations is cost-sharing and higher fees on users to the point that some areas of the country cannot participate, then have we progressed? We urge sound policies for the future of navigation and water resources management programs.

We thank the distinguished Committee for the opportunity to present our views on Oklahoma's FY'1987 water development requirements.

FY 1987

OKLAHOMA -- In Addition to President's Budget	
PROJECT	Funds Requested To:
1. Arkansas Basin Chloride Control Project	Continue Advance Engineering and Design
2. Arkansas River Municipal, Industrial and Agricultural Study	Continue Study
3. Arkansas-Red River Basin Solar Energy Investigation	Continue Study
4. Big and Little Sallisaw Creek Navigation Project	Initiate Construction
5. Candy Lake	Continue Construction
6. Chikaskia Lake (OK-KS)	Initiate Advance Planning
7. Sand Lake	Continue Advance Engineering and Design

STATEMENT OF CITY AND COUNTY OF MUSKOGEE, OK, THE GREATER MUSKOGEE AREA CHAMBER OF COMMERCE, AND THE GREATER MUSKOGEE DEVELOPMENT CORP.

On behalf of citizens of the City and County of Muskogee, Oklahoma, The Greater Muskogee Area Chamber of Commerce and The Greater Muskogee Development Corporation we endorse and approve the action of the Arkansas River Interstate Committee and its members in presenting their request for appropriations to continue development of the natural resources in the Arkansas River Basin.

We also endorse the full 1985-1986 Platform and Program on public works as adopted by the Arkansas Basin Development Association.

We are opposed to the closing of the construction authorization for McClellan-Kerr Arkansas River Navigation System.

We request that Congress (1) recognize the existing danger of a national water cirsis and take all actions necessary to avoid such a crisis; (2) establish a national water policy which recognizes the importance of water in the development of all aspects of our economy; (3) develop a cost-sharing program which will encourage the development of the water resources in all areas of our country, not just in those parts of the nation which can afford up-front financing.

We urge this committee to oppose any consolidation of the Interior Bureau of Reclamation with the Army Corps of Engineers. Recent studies indicate that this consolidation is not justified.

We oppose the 1.5 mills/ton mile use fee. Although we recognize the need to reduce the burden of the Federal budget, we urge you to go slow in placing the full cost on local entities by limiting new cost sharing to limited in-kind contributions, which we believe to be an appropriate compromise on this item.

We want to thank you for this opportunity to appear before you as you have always been most gracious to us. We look forward with great expectations and hope for the future of water resources development; with your assistance, it can be done.

ARKANSAS RIVER BASIN

INTERSTATE COMMITTEE

IN ATTENDANCE

Aubrey Blanks - Alderman, North Little Rock, AR

Raymond Burnett - Director, Waterworks Department, North Little Rock, AR

Coleman Fite - Director, Arkansas Basin Development Association; Vice President, First National Bank & Trust Muskogee, OK

James O. Foster - Chairman, Interstate Committee; Director, Arkansas Basin Development Association; Business Management Coordinator, Boeing Military Airplane Company, Wichita, KS

W. A. Gieringer - Arkansas Chairman, Interstate Committee; Director, Arkansas Basin Development Association; Executive Director, Pine Bluff-Jefferson County Port Authority, Pine Bluff, AR

Tom W. Jolly - Executive Vice President, Arkansas Basin Development Association, Tulsa, Oklahoma

Charles D. Maynard - Interstate Committee; Director, Arkansas Basin Development Association; Sr. Vice President, Union National Bank, Little Rock, AR

Barry McKuin - President, Arkansas Basin Association; Winrock Farms, Inc., Morrilton, AR

E. L. Morris - President, Arkansas Basin Development Association; Project Manager, Rockwell International, Tulsa, OK

Howard V. Osborne - Secretary-Treasurer, Arkansas Basin Development Association; President, Osborne Company, Tulsa, OK

Taylor Peckham - Interstate Committee; Director, Arkansas Basin Development Association; Peckham Insurance Co., Augusta, KS

Robert W. Portiss - Director, Arkansas Basin Development Association; Port Director, Tulsa Port of Catoosa, Catoosa, OK

Harold B. Scoggins - Interstate Committee; Director, Arkansas Basin Development Association; Muskogee, OK

Rudy Szewczak - Executive Vice President, Muskogee Chamber of Commerce, Muskogee, OK

Charles L. Thomson - Colorado Chairman, Interstate Committee; Director, Arkansas Basin Development Association; General Manager, Southeast Colorado Water Conservancy District, Pueblo, CO

Donal Venhaus - County Judge, Pulaski County Arkansas, Little, Rock, AR

Arthur T. Woodman - Interstate Committee; Director, Arkansas Basin Development Association; Woodman-Architects, Wichita, KS

STATEMENT OF LITTLE ROCK, AR

Mr. Chairman, Members of the Committee:

I am presenting this statement to you today, as Mayor of Little Rock, Arkansas, to urge your approval of an appropriation of $760,000 included in the President's FY 1987 budget for final design and start of the Fourche Creek project in Little Rock, Arkansas. This needed flood control project should eliminate the dangers in flooding of this stream, which have in the past 15 years led to the deaths of some 13 people.

Local interests, in the form of agreement by the State of Arkansas, Pulaski County and the City of Little Rock, have agreed to put up 35% of the cost of this project. In fact, the City of Little Rock has had in excess of $7,000,000 in escrow for three years awaiting final authorization and federal funding of this project. Recently, the project was approved for authorization by the Senate, the House having agreed last year. We urge your approval of the above mentioned monies in order that a start on this project might be made in fiscal 1987.

A matter of considerable concern to our city is the continuation of the authority of the Chief of Engineers for studies and Section 107 Approvals of "Off Channel" Harbors. Recently in Little Rock, the local people were assured by the local Corps of Engineers District that funding in the amount of $2,000,000 was available for the government's share of a slack water harbor. As a result of this assurance given over a period of several years, the City of Little Rock held an election and the people voted in favor of a tax upon themselves to provide the necessary funding to meet the local share of the project which is estimated at 70% of the total project cost. After this vote and as the project was about to go into final design and construction, word was received that the policy had been changed at the Washington level over a year previously. However, no notification was transmitted to the field that the government would not participate. Attempts to assure the forthcoming of the $2,000,000 by the Corps of Engineers to date have been unsuccessful. We urge you to look into this matter. The importance of such Section 107 funding by the Chief of Engineers is an essential part of the development of our entire national waterways system. Developed waterways without adequate harbors offer nothing to the overall system.

The major point is that the federal agency abrogated a promise made to a local government, which was the basis for a local election and upon which the people relied. It was a lack of faith and credibility which should be corrected.

Notwithstanding, the Section 107 Authority of the Chief of Engineers should be preserved and enhanced, not eliminated. Without it, our inland water system will cease to develop and prosper.

I thank you for allowing me the opportunity to present this testimony, and I once again would call attention to you of the joint responsibilities of local interests and the federal government in safeguarding the life and property of our citizens. Little Rock and Pulaski County are prepared to meet their share. We urge your participation by the approval of the amounts requested in the President's budget.

STATEMENT OF GREATER LITTLE ROCK (AR) CHAMBER OF COMMERCE

Mr. Chairman, Members of the Committee:

I am Charles Maynard, Colonel, U. S. Army Retired, and I appear here today as Chairman of the Flood Control Committee of the Greater Little Rock Chamber of Commerce, Little Rock, Arkansas. The Little Rock Chamber of Commerce urges your approval of the amounts included in the FY 1987 budget for the Arkansas River McClellan-Kerr Navigation project and for two items included therein for flood control planning and projects in the vicinity of Little Rock, County of Pulaski, State of Arkansas.

The first of these items is the Fourchè Creek flood control project. This project has been approved by both the House and Senate in pending authorization bills. Funds in the amount of $760,000 are included in the President's budget for final design and construction start. The Fourche Creek project is a pilot project in which the local participants have pledged to provide 35% of the costs associated therewith and have placed over $7.3 million in escrow for the past three years toward the funding of the project. The State of Arkansas, Pulaski County and the City of Little Rock have pledged to provide the necessary funds to cover the local costs. We urge your approval of this very important flood control project.

The second item I specifically address is an amount of $75,000 for engineering studies and evaluation of flooding in the Dark Hollow area of North Little Rock, County of Pulaski. This study, which has been underway for some time, will be completed and design evaluation made with these funds to determine the most feasible project to alleviate flooding in this important area of this city on the north side of Little Rock.

As in the case of the Fourche Creek project discussed previously, the State of Arkansas, Pulaski County and the City of North Little Rock have pledged funds to provide the 35% local share funding for this project. We urge your approval of this amount that this project, which eliminates flood damage in this area of the city may proceed.

The Chamber of Commerce endorses the comments of Mr. James Foster of Kansas, spokesman for the Arkansas River Interbasin Committee, and those of Mr. Wally Garringer, chairman of the Arkansas section of the aforementioned Interbasin Committee, and of Mr. Barry McKuin, president of the Arkansas Basin Association.

We would like to call your attention to a paragraph in Mr. Foster's testimony setting forth our beliefs in local cost sharing. We agree with the members of the aforementioned committees, the Arkansas Basin Association and the Arkansas Basin Development Association in Oklahoma, that the Congress should develop proper cost sharing programs that would not penalize the lesser fortunate or lesser developed sections of the country. We recognize that cost sharing is a must in this day. However, we believe that the local participation should not be so onerous as to preclude any possible development of water projects which are so essential to our nation's development.

A matter of considerable concern to us is the continuation of the authority of the chief of engineers for feasibility studies and Section 107 Approvals of "Off Channel" Harbors. Recently in Little Rock, the local people had been assured by the local Corps of Engineers District that funding in the amount of $2,000,000 was available for the government's share of a slack water harbor. As a result of this assurance given over a period of several years, the City of Little Rock held an election and the people voted to provide a tax upon themselves to provide the necessary funding to meet the local share of the project which is estimated at 70% of the total project cost. After this vote and as the project was about to go into final design and construction, word was received that the policy had been changed at the Washington level over a year previously. However, no notification was transmitted to the field that the government would not participate. Attempts to assure the forthcoming of the $2,000,000 by the Corps of Engineers to date have been unsuccessful. We urge you to look into this matter.

The importance of such Section 107 funding by the chief of engineers is an essential part of the development of our entire national water system. Developed waterways without adequate harbors offer nothing to the overall system. The major point is that the federal agency abrogated a promise made to a local government, which was the basis for a local election and upon which the people relied. It was a lack of faith and credibility which should be corrected.

Notwithstanding, the settlement of the issue at the Little Rock Port, the Section 107 Authority of the Chief of Engineers should be preserved and enhanced, not eliminated. Without it, our inland water system will cease to develop and prosper.

We appreciate being allowed to present testimony here today, and we thank the Congress in its wisdom for its wise leadership in the role of water resource development in the past, and we urge your continued interest in such projects in the future.

STATEMENT OF DON VENHAUS, PULASKI COUNTY (AR) JUDGE

I am Don Venhaus, County Judge and Executive Officer of Pulaski County, State of Arkansas. I appear here today to urge your support and approval of the appropriation of funds in the FY 1987 budget for flood control projects in Little Rock and North Little Rock.

The President's FY 1987 budget includes $760,000 for a final engineering design and a construction start for the Fourche Creek project on the south side of the Arkansas River. The budget also includes $75,000 for engineering planning studies for the design of a project to resolve flooding problems in the Dark Hollow on the north side of the Arkansas River.

In both of these projects, the State of Arkansas, Pulaski County, and the cities of Little Rock and North Little Rock respectively, have jointly agreed to pay 35% of the cost of these projects as a local contribution. Money has been set aside in the case of Fourche Creek for the past three years toward the funding of the project. I join the mayors of North Little Rock and Little Rock in urging your support of the monies included in the budget.

I thank you for the privilege of being here today and for the wisdom the Congress has shown in the past in the development and management of the Nation's waterways. I look forward, hopefully, to the approval of the requested funds and the ultimate construction of these two important flood control projects.

STATEMENT OF ARKANSAS BASIN ASSOCIATION

Mr. Chairman and Members of the Committee:

I am Barry McKuin, Executive Vice President of Winrock Farms, Inc., in Arkansas, and President of the Arkansas Basin Association. I appreciate the opportunity of being here today and to associate my organization with the Arkansas River Basin Interstate Committee. We support the testimony offered by Mr. James Foster of Kansas, the Chairman of this five state committee.

I specifically urge this committee's approval for those projects included in the President's budget for the Arkansas River Basin in Arkansas. I call your particular attention to the necessity for keeping the construction phase of the McClellan-Kerr Arkansas River Navigation project open until the final actions, as outlined in the testimony of Mr. Foster, are completed. There is much work left to be done in some of the important aspects of the final development before the project funding authority is cancelled.

To highlight but a few, the studies relating to the low water problem in the White River from the entry of the Arkansas River Canal to the Mississippi must be resolved; studies relating to the deepening of the Arkansas Post Canal should be completed and necessary action taken; the study relating to the possible development of a cutoff between Arkansas and White River should be completed; the studies relating to the stability of Lock and Dam 2 damaged in a major flood a few years ago should be completed and necessary action taken to make sure that this project, so vital to the overall navigation, is remedied; the rock in Pool Seven should be removed in order that the navigation project can adequately operate at the authorized nine foot depth.

I also urge your approval of funds included in the President's budget for the Arkansas River water study, water studies at Clarksville and for the Fourche Creek and Dark Hollow projects in Little Rock and North Little Rock, respectively. These latter two situations are leading examples of local funding where local interests have agreed and have committed the equivalent of 35% of the project costs.

I call your attention to a paragraph in Mr. Foster's testimony setting forth this association's beliefs in the matter of local cost sharing. We agree with him and our colleagues in the Arkansas Basin Development Association in Oklahoma that the Congress should develop proper cost sharing programs that would not penalize the less fortunate or less developed areas of the country. We recognize that the local participation should not be so restrictive as to prevent development of water projects which are so essential to our nation's development.

Again, I thank you for sharing your time with us, for your past understanding of our needs, and I urge your continued support of water resources development along the Arkansas River.

STATEMENT OF NORTH LITTLE ROCK, AR

Mr. Chairman, Members of the Committee:

My name is Raymond Burnett, and I am the Public Works Director for the City of North Little Rock, Arkansas. I am here today on behalf of Terry Hartwick, Mayor of North Little Rock to urge your approval of amounts included in the President's FY 1987 budget for water development projects in the Arkansas River Basin.

The Mayor of North Little Rock, has asked me to urge your approval of $75,000 included therein for planning and engineering studies for the Dark Hollow flood control project in North Little Rock. These needed monies will allow for the development of a needed project that would solve the major flooding areas in the County of Pulaski, City of North Little Rock on the north bank of the Arkansas River. Two years ago, the Congress in its wisdom appropriated money for the initiation of that study. The requested funds will provide for the completion of that study and should lead to the development of a beneficial project which together with the Fourche Creek project on the southside of the river should eliminate approximately 60% of the flooding problems in and around the cities of Little Rock and North Little Rock.

The City of North Little Rock, by resolution, will pledge jointly with the State of Arkansas and County of Pulaski to participate in the cost of the local share for this project. I am here today to reaffirm that pledge. We stand ready to participate in the needed project.

I thank you for allowing me to be here today to testify to you on behalf of this most needed project. I promise you the continued support of the City of North Little Rock toward the attainment of our goal, the elimination of floodings in this area.

RANDLEMAN LAKE, NC

PREPARED STATEMENT OF SENATORS HELMS AND EAST

Senator COCHRAN. Before calling the next witness, we have a prepared statement on the Randleman Lake project from Senators Helms and East that, without objection, will go into the record at this time.

[The statement follows:]

JOINT STATEMENT OF SENATOR HELMS AND SENATOR EAST

Mr. Chairman, thank you for giving us the opportunity to present testimony before your Subcommittee. We recognize the tremendous responsibility that is placed upon you and the other members of the Subcommittee. We hope that our input will aid you in making some of the difficult decisions that you will face in the coming weeks.

Our testimony concerns a project that is critical to the state of North Carolina: the construction of Randleman Dam. After giving a brief history and description of the project, we will explain the developments over the past year which warrant the inclusion of this project in your appropriations for new starts in Fiscal Year 1987. At this time, without objection, we will submit two documents for the record: (1) a letter of support addressed to you from the Honorable S. Thomas Rhodes, Secretary of the North Carolina Department of Natural Resources and Community Development and (2) a Project Information report from the U. S. Army Corps of Engineers.

Before we begin, we want to express our deepest appreciation to Congressmen Howard Coble and William Cobey, our colleagues in the House of Representatives, for the work and time they have put into the review of this project. Congressmen Coble and Cobey carefully scrutinized every aspect of this project before deciding that it is the best solution for the imminent water crisis that faces their respective districts. We join in commending them for their excellent work and their superb representation of the interests of their districts.

HISTORY

Mr. Chairman, the Randleman Lake Project was authorized by Congress in 1968. It is a multipurpose project for flood control, water supply, and recreation. When funds are appropriated, the project will be constructed on the Deep River, about two miles upstream from the Town of Randleman, North Carolina. The project will require about 10,000 acres of land -- 7500 acres in Randolph County (Congressman Cobey's District) and 2500 in Guilford County (Congressman Coble's District).

Since planning on this project first began over twenty years ago, important steps have been taken on the State and Federal levels toward its implementation. The U. S. Army Corps of Engineers has spent $4.1 million on environmental studies, real estate surveys, and engineering for the project. The North Carolina Department of Transportation has spent $387,000 to relocate U.S. 220 to make it compatible with plans for the lake. Local governments have organized a Water Authority to begin planning for the distribution and treatment of the water. Finally, the U. S. Army Corps of Engineers has completed an Environmental Impact Statement on the project, as well as the planning and preliminary design work.

Mr. Chairman, as you know, the Randleman Lake project was included in the President's recommended budgets for Fiscal Years 1983, 1984, 1985 and 1986. No appropriation for construction was made during those years, however, due to differences between the Administration and Congress regarding cost-sharing policies.

We will briefly discuss some of the problems the state has in the areas of flood control, water supply and recreation. We will then point out why all parties involved with the project are now convinced that this project will provide the best solution to those problems.

FLOOD CONTROL

The Randleman Dam Project will provide a substantial degree of flood protection to commercial, residential and agricultural property in the State. Flooding along the Deep River has periodically damaged property and caused severe economic losses. Average annual flood damage along the Deep River is estimated to be $600,000 (1985 dollars).

Flood waters from the Deep River also contribute to flooding downstream along the Cape Fear River, where average annual damages are estimated to be $800,000 (1985 dollars). The Randleman project would reduce the average annual flood damages along the Deep River by about 53%. The State is committed to pay 35% of the flood control costs of the project.

RECREATION

The project will offer a variety of publicly owned and managed recreation facilities. Recreation needs in the project area have been studied by the Research Triangle Institute, by the North Carolina Department of Natural Resources and Community Development's Division of Parks and Recreation, and by the U. S. Army Corps of Engineers. All of these studies conclude that the five county area around the proposed project is deficient in public outdoor recreation opportunities. Randleman Lake will provide high quality outdoor recreation facilities. The availability of a high quality outdoor recreation site such as this will be a key element in attracting desirable industry to the area and cultivating economic development, thus increasing the State and Federal tax base. The State will contribute 50% of the recreation costs of the project.

WATER SUPPLY

In 1984, six local governments funded an independent study of their water supply alternatives. The study was completed in May of 1985. After reviewing 40 alternative sources of water supply, the study concluded that Randleman Lake is the most feasible and desirable alternative to meet regional water supply needs. The study also made the alarming projection that water supplies will be exhausted in Randloiph County as early as 1991, in Archdale County by 1994, in the City of Greensboro by 2000, and in the Cities of Jamestown and High Point by 2008.

The most important conclusion of the study was that if the Randleman project is not begun by 1987, other water supply alternatives will have to be implemented immediately. **These alternatives would cost more, take longer to build, and will not accomplish the associated flood control and recreation purposes of the Randleman project**. **The local governments will finance the entire amount of the water-supply costs of the project**.

Within the past year, it has become evident that prompt implementation of this project is critical to our State. State, local and Federal representatives have reached agreement on both the merits of the project and the cost-sharing arrangement. Because of the importance of the project to North Carolina, State and local governments have agreed to pay almost 69% of the total costs of the project.

Mr. Chairman, we join in urging prompt implementation of the project in order to realize the tremendous Federal and State investment that has already been made in the project and to avoid the need to finance a more costly, less effective project in the future.

Thank you, Mr. Chairman.

OKLAHOMA WATER RESOURCE PROJECTS

STATEMENT OF HARVEY BOLLINGER, EXECUTIVE DIRECTOR, REDARK DEVELOPMENT AUTHORITY

ACCOMPANIED BY:
TOM PAYNE, POTEAU/DEEP FORK ASSOCIATION
BILL CHAPMAN, MEMBER OF RED RIVER VALLEY ASSOCIATION FROM OKLAHOMA
BEVERLY RODGERS, MAYOR, HOLDENVILLE, EAST CENTRAL WATER ASSOCIATION

Senator COCHRAN. Now we have the group headed by Harvey Bollinger, who is executive director of the RedArk Development Authority. We have Tom Payne, Bill Chapman, and Beverly Rodgers, all listed as potential witnesses who will be here to present testimony concerning the Red and Arkansas River projects. We will call on Mr. Bollinger.

Mr. BOLLINGER. Mr. Chairman, on behalf of the board of directors of RedArk, I want to express our appreciation for this opportunity to meet with this committee to discuss our needs. We have submitted testimony in written form, and may we have copies of that, if you would please, entered into the record at this time.

The RedArk Development Authority is a public trust established under the laws of the State of Oklahoma for a 21-county area of east-central and southeast Oklahoma. We cover about a quarter of the geographic area of the State of Oklahoma. The purpose of RedArk is to undertake the maximum potential development of the area's water and natural resources with the objective of attaining the maximum potential economic and employment benefits for the people of that area.

With this purpose in mind, RedArk is vitally concerned with the development of not only what we consider our area's most vital resource, but also the most vital resource of our great Nation—water.

To achieve its purpose, RedArk has established a comprehensive resource water development program. In our role as a planning and implementing authority, RedArk works closely with the three citizens water associations in our area: East Central Water Association, Poteau/Deep Fork Association, and the Oklahoma delegation of the Red River Valley Association.

With me today are representatives from each of these three water associations. A list of attendees has been attached to the testimony for the record. I would like to point out that Mr. Banks and Mr. Pfeiffer, who are listed, at the last minute were not able to attend and that will keep the record straight. At this time, I would like all of those that are in attendance representing these three groups to please stand, if they would, please.

[Group standing.]

Senator COCHRAN. Thank you, and welcome to our hearing.

Mr. BOLLINGER. In addition to those standing, we have the four at the table here. For the record, we have also inserted a testimony summary on page 4, and that is a basic one-page summary of the request that all of this group is asking for.

NEED FOR CONSISTENT WATER POLICY

Before I ask each of the three representatives from the three associations to speak about specific needs and concerns, there is one area that I would like to address that, in fact, affects all of us, and that is a lack of a consistent national water policy.

Something has already been mentioned here this morning by several groups. We definitely support the concept of cost sharing that has been put forth in S. 1567, where it does allow, as you pointed out, some flexibility for an area that may be needed for the Nation but may not quite have the financial capabilities of other areas of the Nation to support the projects.

We cannot support the type of up-front financing that the administration has been requiring, because we do not feel that that is fair, and it does lead to a biased type of development in this country.

We are aware that the House has earlier passed an omnibus water bill in H.R. 6, and the Senate recently passed S. 1567.

We urge the conference committee to develop a consensus omnibus bill that will benefit the Nation through the proper development and management of the water resources of America and that the full Congress give prompt attention to the passage of such legislation this year. We ask that you, as Senators, support the passage of this type of legislation when it comes before the full floor.

At this time, I would like to turn the remainder of our time over to the three representatives from each association.

First, Mr. Thomas Payne, who is a businessman and rancher from McAlester, OK, and representing Poteau/Deep Fork Association.

Bob?

Senator COCHRAN. Mr. Payne, welcome.

POTEAU AND DEEP FORK RIVER, OKLAHOMA PROJECTS

Mr. PAYNE. Yes; thank you, Senator, and members of the committee.

My name is Thomas Payne. I am from McAlester, OK. The Poteau/Deep Fork Association is a voluntary citizen group that is interested in supporting water development projects and other natural resource development in 10 counties of Oklahoma impacted by this Poteau and Deep Fork Rivers. These 10 counties have a combined population of almost 1 million people and the Poteau/Deep Fork Association was formed for the purpose of promoting the orderly development of water and natural resources in these two river basins.

Just briefly, sir, I would like to give you a few comments about each river basin and close at that point.

The Deep Fork River, on which I grew up on the banks of and fished for soft shelled turtles and needle nose gar, et cetera, is a tributary of the Canadian River, which forms one of the major arms of Lake Eufaula.

It is an existing Corp's of Engineers multipurpose project and, ultimately, empties into the existing McClellan-Kerr navigation channel on the Arkansas River. Three things about this Deep Fork River: It originates in the central part of Oklahoma in a swamp, so to speak, and runs 220 miles with an avarage fall of just 2 feet per mile, which is not much more fall than is on this table. Flooding occurs almost yearly, and I think when I left it was on the rise and probably is flooded at this time.

The flooding occurs because of inadequate channel capacity, and the average annual damage to crops, of course, and structures is in the hundreds of thousands of dollars for this slow, lazy Deep Fork River that leaves excessively wet and flooded rivers. The Poteau River, on the other hand, contains an area of about 900,000 square miles in eastern Oklahoma and western Arkansas.

Some of the interesting points of this river are that almost 3 million tons of coal reserves are located in this basin, and they are being mined at an increasing rate, but due to a lack of transportation, the mining is very slow to get started. Also, approximately several million bushels of soybeans are produced each year in this area. Due to the fluctuating water levels, soybeans are very risky to raise.

Expanding industrial activity in the basin, especially near Fort Smith, AR, and in LeFlore County, are placing increased demands on this area's ability to provide ample quality and quantity of water, municipal and industrial water, in fact.

There are three major industrial facilities that have moved to one of our countries before this year. One is a cogenerating plant; another is a plant that will consume 1 million tons of coal a year, and these are quite exciting to us, but without navigation and flood control, the future is not nearly as rosy.

Navigation in this area is not a new concept. It was championed in the latter 1950's by the late Senator Robert S. Kerr as an original part of the McCellan-Kerr navigation system to serve the major industrial center of Oklahoma City as well as this area.

The Poteau/Deep Fork Association would like to see, along with the entire area, a multipurpose navigation, flood control, recreation, and water supply system extending all the way to our State capitol in Oklahoma City. This is our goal and our dream. To maximize the potential of these water resources, we must quit looking at it as a single-purpose project, as we understand this, and consider it as a multipurpose project. This multipurpose approach would combine navigation, water supply plans, as well as other purposes, such as hydropower, recreation, flood control, and even municipal water transmission.

In closing, sir, I would like to say that several efforts are underway in the Poteau/Deep Fork area to develop solutions for these problems and the needs that they present. The resolutions included in our written testimony represent the Poteau/Deep Fork Association's position regarding each of these efforts. The membership of the Poteau/Deep Fork Association respectfully ask that your subcommittee honor the requests in handling these resolutions, and we thank you, sir, for this time and attention.

Senator COCHRAN. Thank you, Mr. Payne.

Mr. BOLLINGER. Mr. Chairman, William Chapman, the chairman of the Red River Valley Association and also a rancher and attorney in that area, will comment about that association.

Senator COCHRAN. All right, Mr. Chapman?

RED RIVER BASIN PROJECTS

Mr. CHAPMAN. Thank you, Senator, and members of the committee.

It is an honor to be here this morning. I am a lifelong resident in the Red River Valley. I would like to point out that almost half of the State of Oklahoma lies within the basin of the Red River Valley, and so, consequently, it is extremely important both to myself as a resident and farmer and rancher in the area, as well as the State of Oklahoma, to have the proper utilization and development of financial resources that are found therein, and we are particularly concerned with these and would like to address them briefly this morning, pointing out that much more detail is presented in our written testimony. Rather than what I have intended to cover this morning, I will just try to hit the highlights.

I would like to point out that there are three projects of the Corps of Engineers that were funded during fiscal year 1986 concerning the study of the addition of hydropower as the main purpose of three projects found within our area. Two of these projects are on existing structures; a third one is for a project that has been authorized but it is not under construction.

Although none of these studies would be completed with the funding received in fiscal year 1986, two of these studies are not programmed to receive any additional funds in fiscal year 1987, and we feel that it would be a significant waste of the past, present, and the future funds to discontinue these studies midstream. We would encourage the committee to look at this again, and we have more specific details in our written testimony.

SARDIS LAKE, OK

Also, I would like to point out that in the Sardis Lake, which is Corps of Engineer project in our area, that was actually dedicated, officially dedicated in 1983, there was authorized at full Federal expense $2.4 million worth of recreation facilities, and they were never constructed. Without these facilities, the recreational benefits originally envisioned when the project was authorized cannot be achieved. We would, therefore, ask that the Congress provide $500,000 of funds this year, full Federal expense, to accomplish the additional recreational development as originally planned and authorized.

RED RIVER BASIN COMPREHENSIVE STUDY

The third and last point that I would like to cover briefly is the ongoing or the continuation of the Red River Basin comprehensive study. The feasibility study of the Oklahoma portion are underway at full Federal expense, as directed by Congress, with a completion scheduled for March 1989. We certainly appreciate the support of this committee that it has received on this authorization. We feel it is extremely important to our area.

We understand that the Corps has testified before Congress that if it receives its full capability for fiscal year 1987, it could complete, accelerate, and complete the study by October 1988. Therefore, we would request that Congress provide the capability in the amount of $1,150,000 in fiscal year 1987.

We thank you for your present and past help in these matters.

Senator COCHRAN. Thank you, Mr. Chapman.

Mr. BOLLINGER. Mr. Chairman, Beverly Rodgers, mayor of the city of Holdenvillle, will address the concerns of the East Central Water Association.

Senator COCHRAN. Ms. Rodgers, thank you.

Ms. RODGERS. Thank you, Mr. Chairman and members of the committee.

My name is Beverly Rodgers, and I represent the East Central Water Association. The East Central Water Association is a voluntary group of citizens banded together in the interest of supporting water development projects and other natural resources development in the east-central counties of Oklahoma.

The East Central Water Association promotes the orderly development of the area's water and natural resources to advance the economic development and future well-being of the citizens of the five-county area. These Oklahoma counties are Coal, Hughes, Pontotoc, Pottawatomie and Seminole. The five counties which comprise the east central area have a combined population, as in the 1980 Census, of approximately 134,000 people.

This five-county area is the most rapidly growing area in southeastern Oklahoma. It is an area which is not only experiencing significant population growth, but also major expansion in the manufacturing and industrial sectors. Cities in these east central counties, such as Ada, Shawnee, Tecumseh, Wewoka, Coalgate, and Holdenville are in extreme need of an auequate municipal and industrial water supply.

However, at this time, there are no existing, under construction, or authorized Corps of Engineers or Bureau of Reclamation lakes within the east central area. In fact, there are not any lakes which have a significant water supply storage capability within the area. Water rationing has been a regular occurrence over the past several summers for nearly all the communities within this area.

PARKER LAKE, OK

This critical need for future water supply is clearly demonstrated by the competition for the municipal and industrial water supply storage to be provided by the proposed Parker Lake located in the northern part of Coal County. Although construction of this lake has not even been started, applications for water rights already exceed by 10 times the amount of water which will be available from the lake.

The East Central Water Association, at its annual meeting this past March, adopted the resolutions included with our written testimony. We hereby ask that this subcommittee consider the request of each. Also in the written testimony are resolutions adopted by the governing bodies of several of the communities in the area in support of Parker Lake.

The membership and area represented by the East Central Water Association thanks you for your attention and the opportunity to testify before the subcommittee.

Mr. BOLLINGER. Mr. Chairman, that completes our remarks. If you have any questions, please address them to us.

Senator COCHRAN. I am glad to get a chance to meet each of you and to listen to your presentations. I looked through the written statements here just to get an impression of the kinds of projects that you are interested in, and I know these are important proposals. The committee will carefully review these suggestions as we try to decide how to divide up the available resources that they are going to let us have to try to help meet these important needs around the country.

I couldn't help but notice in the testimony in those of you from Oklahoma, some of the names are very familiar to me—they sound like Mississippi names. It reminds me that the Chickasaw and Choctaws were responsible for naming a lot of the towns and communities and areas in Oklahoma just as they were in Mississippi. Sardis Lake is an impoundment in north Mississippi, as well. Pontotoc is the town where I was born in northern Mississippi. So, we share a lot of the same heritage in our two States.

We welcome you, and we thank you for your taking time to be here. Thank you, Mr. Bollinger.

Mr. BOLLINGER. Thank you.

[The statement follows:]

TESTIMONY BY REDARK DEVELOPMENT AUTHORITY, EAST CENTRAL WATER ASSOCIATION, POTEAU/DEEP FORK ASSOCIATION, AND OKLAHOMA DELEGATION OF THE RED RIVER VALLEY ASSOCIATION

ORAL TESTIMONY

before the

Senate Energy & Water Appropriation Subcommittee

14 April 86

Name	Representing*	Profession
Harvey Bollinger	RedArk	Executive Director
Tom Payne	PDFA	Businessman & Rancher
Bill Chapman	OK-RRVA	Attorney & Rancher
Beverly Rodgers	ECWA	Mayor, City of Holdenville

*RedArk - RedArk Development Authority
PDFA - Poteau/Deep Fork Association
OK-RRVA - Oklahoma Delegation of Red River Valley Association
ECWA - East Central Water Association

TESTIMONY ATTENDEES

	NAME	REPRESENTING*	PROFESSION
1.	Harvey Bollinger	RedArk	Executive Director
2.	Jim Bradshaw	ECWA	Shawnee News-Star
3.	Don Bodard	ECWA	
4.	Pierre Taron	ECWA	Mayor, Shawnee, OK
5.	Ron Bourbeau	ECWA	City Manager, Shawnee, OK
6.	Leonard Briley	ECWA	City Manager, Ada, OK
7.	Bill Shields	ECWA	Industrial Development
8.	Leodus Banks	ECWA	Mayor, Wewoka, OK
9.	Beverly Rodgers	ECWA	Mayor, Holdenville, OK
10.	John Butler	ECWA	Consulting Engineer
11.	Thomas Payne	PDFA	Businessman & Rancher
12.	Brad Bollinger	PDFA	Student
13.	Charles Pfeiffer	PDFA	City of Edmond
14.	Bill Chapman	OK-RRVA	Attorney & Rancher

*RedArk - RedArk Development Authority
ECWA - East Central Water Association
OK-RRVA - Oklahoma Delegation of Red River Valley Association
PDFA - Poteau/Deep Fork Association

TESTIMONY SUMMARY

	PROJECT	REQUIRED ACTION BY COMMITTEE
1.	Omnibus Water Legislation	Supplemental Appropriation Bill Upon Passage
2.	Arkansas River & Tributaries, South Central and Southeast Areas of Oklahoma Comprehensive Study	Appropriate $750,000 for Feasibility Study
3.	Arcadia Lake, Oklahoma	Appropriate $5,900,000 for Construction
4.	Canadian River & Tributaries	Appropriate $155,000 for Feasibility Study
5.	Red River Chloride Control, TX & OK	Appropriate $10,000,000 for Construction
6.	Red River Basin Comprehensive Study	Appropriate $1,150,000 for Feasibiity Study
7.	Hugo Lake, Oklahoma	Appropriate $230,000 for Hydropower Re-study
8.	Pine Creek Lake, Oklahoma	Appropriate $50,000 for Hydropower Re-study
9.	Lukfata Lake, Oklahoma	Appropriate $50,000 for Hydropower Study and USFWS Coordination
10.	McGee Creek Lake, Oklahoma	Appropriate $7,755,000 for Construction
11.	Sardis Lake, Oklahoma	Appropriate $500,000 for Recreation Area Construction
12.	East Central Water Supply Study	Appropriate $300,000 for Continuation of this Study
13.	Parker Lake, Oklahoma	Appropriate $950,000 to Complete On-going Planning and Engineering

STATEMENT OF REDARK DEVELOPMENT AUTHORITY

Mr. Chairman, I want to express our appreciation for this opportunity to meet with this committee to discuss what we consider the most crucial question facing our nation, "how do we develop our nation's water resources in order to avoid a national water crisis?" We consider it an honor and a privilege to testify before this committee because we feel that without a strong multi-purpose national water development program, many of the other important aspects of our country's future, including the nation's defense program are really being built on an very unstable foundation. We also consider it a responsibility to work with you and the committee.

The RedArk Development Authority (RedArk) is a public trust established under the laws of the State of Oklahoma for a 21-county area of east central and southeast Oklahoma. The name RedArk is derived from the fact that the area lies immediately between two major water resources, the Red and the Arkansas Rivers. The purpose of RedArk is to undertake the maximum potential development of the area's water and natural resources with the objective of obtaining the maximum potential economic and employment benefits for the people of that area. With this purpose in mind, RedArk is vitally concerned with the development of not only what we consider our area's most vital resource, but also the most vital resource of our great nation--WATER.

East Central and Southeastern Oklahoma is rich in water and natural resources, but this area of Oklahoma has lagged far behind the state and the Nation in capitalizing the untapped potential of its natural resource base. The economic and job development potential of these resources has not as yet been of significant benefit to the people of the project area.

When one looks at the RedArk area and the poor economic and employment conditions that exist, and yet realizes the area is rich in water and natural resources, one has to come to the conclusion that there's no justifiable reason for the situation to exist. It is a realization of this untapped potential that makes it not only a privilege for us to appear before you to testify about water development in this area, but it actually becomes a mandate to do so.

To achieve its principal purpose, RedArk has initiated a comprehensive, multi-purpose, water resource development program. This program includes hydropower development, water supply, recreation, flood control, and water quality activities. In our role as a planning and implementing authority, RedArk works closely with the three citizens water associations in our area: East Central Water Association, Poteau/Deep Fork Association, and the Oklahoma Delegation of the Red River Valley Association.

With me today are representatives from each of these three water associations. A list of attendees is attached to this testimony for the record. However, before I turn to them to make short comments about specific needs of their individual area, I would like to draw your attention to certain items which are of general importance to the entire RedArk area and are specific concerns which I have.

The first of these is in the area of water resource development. Our country is facing a crisis which will make our energy crisis appear to be insignificant. We do not have a national water policy. The lack of such a water policy is leading our country toward a national water crisis. Water is involved in all aspects of our daily lives. With all of our advanced technology, with all of our great scientific expertise, we have never been able to find anything that we can substitute for water.

We talk about economic recovery programs, and we talk about our national defense program. Mr. Chairman, I ask you to consider for just a few minutes where is the econommic recovery program going to be and where is the national defense program going to be if we don't have water. If we don't have a national water resource development program, where are we going to get the water supply to meet the needs of industry and to meet the needs of our country during a miltary emergency? Where are we going to get the water delivery systems that can provide a country with clean, fresh, pure, potable water that protects our health and provides us with the ability to produce and to process our goods for distribution all over this planet.

The current Administration's policies and proposed budget for water resource development is not only going to destroy the water resource program of the entire nation, but it is particularly going to destroy that program in rural areas such as ours. These policies and budget proposals will speed up our pace of arriving at a national water crisis.

The Administration says we simply want you to cost share in water resource projects. Well, let's talk about cost sharing for a minute. Is cost sharing a new concept? No, we have had cost sharing for a long time. In fact, most of the Corps of Engineers and Bureau of Reclamation's water projects are heavily cost shared. Almost all of the project cost of these projects is repaid to the Federal Treasury, with interest, over a 50-year time period (the life of the project). An example of the cost sharing that we've been participating in for years is the McGee Creek Project, a Bureau of Reclamation project currently under construction within 60 miles of McAlester. Eighty-seven percent (87%) of this project's total cost will be paid back to the Federal Government with interest. So there is nothing new about the fact that we're sharing in the cost. Water projects funded through the Bureau and the Corps are not grant programs.

Okay, we've always had cost-sharing. What is the real question? The real question is just when and how much. The Administration wants "100 percent" of the cost on hydropower and municipal and industrial water supplies to be provided "upfront" by non-federal entities. On navigation projects it wants 75 percent upfront, on recreation projects it wants 50 percent upfront, and on flood control it wants 35 percent upfront. Upfront, that means before the project ever starts.

But what if I can't afford to finance the project upfront, and yet I still have a resource that needs to be developed, I still have a resource that can provide a positive input to strengthening our country as a whole. Yes, it's probably going to strengthen my particiular area. But then that's how you strengthen the whole, you strengthen the parts. Our national water policy needs to be based on this concept...that we're going to look at our nation's water resources and to develop those water resources in the best interest of our nation as a whole. We are going to do that by developing the water resources that are beneficial to our nation from each area of our area, irrespective of whether that area has the ability to finance that development on its own.

The policies and budget proposals by this Administration are 180 degrees in the opposite direction. The Administration has refused to include new water projects in its budget, unless non-federal sponsors agree to these cost-sharing policies based on the upfront concept. This is done irrespective of the fact that Congress has never authorized a change in the cost-sharing structure of water resource projects.

Water projects are the only projects on a federal level that must go through a rigiorious benefit to cost ratio analysis. Under the Administration's upfront cost sharing policy, projects are going to be included in his budget which may only have a benefit cost ratio of 1.01 to 1.00, if they agree and have the ability to provide the upfront cost sharing while projects that might have a 2.0 to 1.0 benefit to cost ratio will be left out of the budget because the local area does not have the financial ability to provide the upfront cost sharing. Now, I ask you. Is that the optimal development of our nation's water resources for the benefit of our nation as a whole.

We request that Congress (1) recognize the existing danger of a national water crisis and take all actions necessary to avoid such a crisis; (2) establish a national water policy which recognizes the importance of water in the development of all aspects of our economy; (3) develop a cost-sharing program which will encourage the development of the water resources in all areas of our country, not just in those parts of the nation which can afford upfront financing; and (4) continue to resist pressure from the Administration to give a higher priority to projects whose sponsors have agreed to the Administration's up-front requirements, and continue to authorize projects and appropriate funds based only on policies which have been enacted by Congress and signed into law by the President.

We are aware that the House has earlier passed omnibus water legislation in 99HR6 and that the Senate recently passed its version of such legislation in 99S1567. We urge the Conference Committee to develop a consensus omnibus bill that would benefit the nation through the proper development and management of the water resources of America and the full Congress to give prompt attention to the passage of such legislation this year.

STATEMENT OF POTEAU/DEEP FORK ASSOCIATION

The Poteau/Deep Fork Association (PDFA) is a voluntary citizens' group interested in supporting water development projects and other natural resource development in the 10 counties of Oklahoma impacted by the Poteau and Deep Fork Rivers. These counties are: LeFlore, Haskell, Latimer, Pittsburg, McIntosh, Okmulgee, Okfuskee, Lincoln, Creek and Oklahoma. These 10 counties have an combined population of 816,000. The PDFA was formed for the purpose of promoting the orderly development of the water and natural resources in these two river basins.

The Deep Fork River is a tributary of the Canadian River; forms one of the major arms of Lake Eufaula, an existing COE multipurpose project; and ultimately empties into the existing McCellan-Kerr navigation channel on the Arkansas River. The river originates in the central part of Oklahoma near Oklahoma City. It is 220 river miles long with an average fall of two feet per mile. The channel is crooked and filled with obstructions. Flooding occurs because of inadequate channel capacity caused by much of the watershed having channel slopes as flat as one foot per mile and average velocities as low as one foot per second. These conditions allow flood flows to escape the channel, fill the lowlands, and deposit the sediment load which results in additional flattening of these lower reaches. Over time the flood area is expanded because of the sediment deposition. Average annual damages of crops and structures is over $200,000.

The flood plain has additional problems. Due to the high sediment load of the river and poor natural drainage, levees have formed adjacent to the river. These levees trap flood waters and do not allow drainage once the flood waters have subsided. There are 34,000 acres of potential farmland that remains wet for many months. It is important to note that these are not natural wetland areas but have been formed throughout the years as a result of man's activities in the basin and his lack of conservation and resource management programs. These conditions result in the overgrowth of trees and brush and make otherwise prime farmland unsuitable for agricultural purposes.

The Poteau River drains an area of about 1,900 square miles in eastern Oklahoma and western Arkansas. The drainage basin, which is about 1.2 percent of the drainage area of the Arkansas River, is roughly rectangular in shape and is mountainous. There are approximately three billion tons of coal reserves located in the basin and they are being mined at an increasing rate. In addition, approximately one million bushels of soybeans are produced each year in the area. Expanding industrial activity in the basin; especially near Ft. Smith, Arkansas and in LeFlore County, Oklahoma; are placing increasing demands on the area's ability to provide an ample quantity and satisfactory quality of municipal and industrial water. Three major industrial facilities have moved to LeFlore County this year. One facility, a co-generation plant, will employ 1,200 people during the four-year construction period and 130 people for the life of the plant's operation. This plant will consume approximately one million tons of coal per year. The facility also will house an CO2 plant and a paper recycling plant.

Navigation in this area is not a new concept. It was championed in the latter 1950s by the late Senator Robert S. Kerr as an original part of the McCellan-Kerr Navigation System to serve the major industrial center of Oklahoma City and the vast agricultural grain industry of western Oklahoma and the Texas panhandle. A report showing the project to be economically feasible was forwarded by the Tulsa District to the southwest division and hence to the Office of Chief of Engineers in the early 1960s. Unfortunately, the Board of Engineers for rivers and harbours rejected the report on the grounds that Tulsa District had over estimated shipments of petroleum products and coal that would be carried by the waterway. The project was then dropped. It is important to note that although this project did show an economc feasibility at one time, it was a single purpose (navigation) project.

The Oklahoma Water Resources Board recently completed a state water plan which included a project to transfer excess flood waters from the Robert S. Kerr Lake, a part of the existing navigation channel on the Arkansas River, the water eficient areas in metropolitian Oklahoma City and the tremendously productive agricultural areas of the high plains of Oklahoma. The agriculture of this area is heavily depended upon irrigation and is in jeopardy because of the eight-state ogallala ground water aquafer. Although technically feasible, the project did not prove economically feasible under current conditions and evaluation criteria. This plan called for water to be transported by non-navigation canals, fish stations and aqua ducks along a route closely paralleling the proposed navigation route. Again, this project was designed and evaluated as a single purpose project (water supply). To maximize the potential of this water resource, we must quit looking at it as single purpose projects and consider it from a multipurpose standpoint. This multipurpose approach would include ways of combining navigation and water supply plans as well as other purposes such as hydropower, recreation and flood control.

Several efforts are underway in the PDFA area to develop solutions for the problems and needs just presented. The following resolutions represent the PDFA's position regarding each of these efforts. The membership of the PDFA respectfully ask that your subcommittee honor the requests contained in these resolutions. Thank you for your time, attention, and continued support.

RESOLUTION I

POTEAU/DEEP FORK COMPREHENSIVE STUDY, OKLAHOMA

The Arkansas River and Tributaries, South Central and Southeast Areas of Oklahoma Comprehensive Study (authorized by PL 98-63, 30 July 1983) was initiated in October 1983. A reconnaissance report was completed by the Corps of Engineers in March, 1985. Feasibility studies are underway at full Federal expense, as directed by Congress, with completion scheduled for December, 1988.

The comprehensive study will recommend measures for: flood control; development of water supply, treatment and conveyance facilities; generation of hydroelectric power; development and enhancement of the recreational potentials and enterprises of the region; and improvement of the rivers for navigation and port site development. The study will also address which features of a comprehensive plan could best be accomplished by Federal, State or local entities and private interests.

The Poteau/Deep Fork Association agrees with the position Congress has taken regarding no cost-sharing on this feasibility study. We understand that the Corps has testified before

Congress that completion of this study could be moved to October 1988 if full capability funding levels were received in FY '87. The PDFA strongly support continued funding at full capability of this study and request Congress to appropriate $750,000 for feasibilty studies at 100 pecent Federal cost.

RESOLUTION II

ARCADIA LAKE, OKLAHOMA

Arcadia Lake is located at mile 213.8 on the Deep Fork River; in the metropolitian area of Oklahoma City and Edmond, Oklahoma; about one and one-half miles west of Arcadia, Oklahoma. Arcadia Lake was authorized by the Flood Control Act of 1970 for the purposes of flood control, water supply and recreation. Construction on the COE lake began in September 1980. The entire project is about 53 percent complete. The total estimated cost is $85.3 million.

The City of Edmond, as a local sponsor, has signed contracts with the Corps to repay the cost of water supply and one-half the separable recreation costs. This equals to about 56 percent of the total project cost. This is another example of how well our Congressional approved cost-sharing policies on water resource projects work.

The PDFA wants to go on record as being a strong supporter of the continued funding for the construction of the Lake Arcadia project. We therefore request that this Committee appropriate $5,900,000 to the Corps to continue the construction of this project in FY 1987. The PDFA also congratulates the Corps for the completion of this lake continuing in relatively short order and with scheduled funding at a cost below the authorized ceiling.

RESOLUTION III

CANADIAN RIVER AND TRIBUTARIES

The Canadian River and Tributaries Study was authorized by the Flood Control Act of 1937 (PL 75-406); PL 79-525; Senate Committee Resolutions of 1944, 1949 and 1976; and House Committee Resolutions of 1944, 1950 and 1976. The Deep Fork River, with a drainage area of 2,548 square miles, is a major tributary of the Canadian River.

The Corps, with funds included in the FY '86 Energy and Water Appropriations Bill, continued studies in cooperation with the USDA-Soil Conservation Service (SCS) on the flood control and drainage problems of the Deep Fork River. The Corps study included the development of alternatives for channel improvement measures along the main stem of the river. The SCS is continuing the development of the upstream watershed structures that would complement the flood protection afforded by implementable plans along the main stem. This project represents an excellent example of the coordinated use of the resources of two federal water agencies to address a significant, and at times, life-threatening problem of those people who live along the Deep Fork River.

The Tulsa District of the Corps of Engineers completed a reconnaissance study of the Deep Fork River portion of the Canadian River Study in November, 1984. An interim feasibility report on the Deep Fork River has been initiated and is scheduled for completion in March, 1987. A plan of study for a demonstration reach located near Sparks, Oklahoma, has been completed as a part of this interim report effort and is currently being evaluated.

The PDFA is concerned about the flooding and drainage problems in the Deep fork Basin, which manifested themself again this year. The Association strongly urges the Corps to complete, as soon as possible and at full Federal expense, the feasibility study on these flood and drainage problems and to appropriate $155,000 for such in FY '87.

STATEMENT OF RED RIVER VALLEY ASSOCIATION

Mr. Chairman, 12 of the 21 counties in the RedArk area lie within the Red River Basin. We in Oklahoma are concerned with several projects in the Red River Valley. This is appropriate since almost half of the State of Oklahoma is in the drainage basin of the Red River. We, as the Oklahoma Delegation, represent one of the four states which are members of the Red River Valley Association. In fact, two members of our group serve on the Board of Directors of the Association with me also holding the position of Vice President of the Association for Oklahoma.

The Red River Valley Association is a voluntary group of citizens banded together to advance the economic development and future well-being of the citizens of the four state Red River Basin area in Arkansas, Louisiana, Oklahoma and Texas.

The Association has for 61 years done notable work in the support and advancement of a program to develop the land and water resources of the valley to the beneficial use of all the people. To this end, the Red River Valley Association offers its full support and assistance to the various Port Authorities, Chambers of Commerce, Economic Development Districts and other local governmental entities in developing the river basin.

The resolutions contained herein were presented by the Oklahoma Delegation and adopted by the full Association during its 61st Annual Meeting in Shreveport, Louisiana, on February 12-14, 1986, and represent the combined concerns of the citizens of the Oklahoma portion of the Red River Basin as they pertain to the goals of the Association, specifically:

....Economic and Community Development
....Flood Control
....Bank Stabilization
....A Clean Water Supply for Residential, Commercial,
    Industrial and Agricultural Use
....Solar and Hydroelectric Power Generation
....Navigation

The Red River Valley Association is aware of the constraints on the federal budget, and have kept those restraints in mind as the resolutions were adopted. Therefore, and because of the far-reaching regional and national benefits addressed by the various projects covered in these resolutions, we urge the members of

Congress to review the materials contained herein and give serious consideration to funding the projects at the levels requested.

RED RIVER CHLORIDE CONTROL RESOLUTION

The approval of the Red River Chloride Control report, submitted to the Secretary of the Army in August 1977, was deferred pending an economic re-analysis to be conducted by the Corps of Engineers. The economic re-analysis, which reaffirmed the economic feasibility, was submitted to the Secretary of the Army for final action in 1981. The Red River Valley Association understands that although the Secretary has approved the report, release of the approval has been delayed pending resolution of cost-sharing questions with state and local entities.

This project was authorized for construction (PL 89-789 and PL 91-611) with the removal of natural pollution as a Federal responsibility, while removal of man-made pollution is a non-Federal responsibility. Since the time these responsibilities were agreed to, Red River Valley Association members have worked closely with the participating states to assure that local responsibilities have been successfully undertaken in a fully cooperative manner. This effort was performed in anticipation that Federal responsibilities would be executed in a responsible and timely fashion. The State of Texas has expended over $52 million controlling man-made salt pollution over the past years, and the State of Oklahoma is spending $5 million annually.

Therefore, we fully believe the non-federal role is being achieved and will continue to be strengthened. However, the cooperative project goal to make basin waters suitable for beneficial use cannot be attained unless the Federal government honors its long-standing commitment and discharges its responsibilities. The Red River Valley Association strongly requests that the Secretary of the Army immediately forward the report on this project to OMB with a favorable recommendation for the initiation of construction on the remaining areas, and the Corps of Engineers receive 100 percent Federal funding in the amount of $10,000,000 to initiate construction on Areas VI & X in FY '87.

RED RIVER BASIN COMPREHENSIVE STUDY RESOLUTION

The Red River Basin Comprehensive Study, authorized by PL 98-63, 30 July 1983, was initiated in October 1983. A reconnaissance report was submitted in March 1985 by the Tulsa District of the Corps of Engineers for the Oklahoma portion of the Basin. Feasibility studies for the Oklahoma portion are underway at full Federal expense, as directed by Congress, with completion scheduled for March 1989.

The comprehensive study will recommend measures for: flood control, development of water supply, treatment and conveyance facilities, generation of hydro-electric power, development and enhancement of the recreational potentials and enterprises of the region, and improvement of the rivers for navigation and port site development. The study will also address which features of a comprehensive plan could best be acomplished by Federal, State, local entities and private interests.

The Red River Valley Association agrees with the position Congress has taken regarding cost-sharing on this project. We understand that the Corps has testified before Congress that completion of this study could be moved to October 1988 if full capablity were received in FY '87. The Red River Valley Association strongly supports continued funding at full capability of this study and requests Congress to appropriate $1,150,000 for feasibility studies at 100 percent Federal cost.

HUGO LAKE

Hugo Lake was authorized by the Flood Control Act of 1946 for the purposes of flood control, water supply, water quality, recreation, and fish and wildlife. Construction began in October 1967, and impoundment of the lake began in January 1974. The damsite is located at river mile 17.6 on the Kiamichi River about seven miles east of Hugo, Oklahoma.

A study to determine the feasibility of adding hydropower facilities to the existing Hugo Lake project is being conducted under the authority of Section 216, PL 91-611, December 1970. Preliminary studies completed in October 1982 showed that a 15 mega-watt hydropower plant may be economicallly feasible and detailed feasibility studies are being continued. The Red River Valley Association recommends that the Corps of Engineers receive funds in the amount of $230,000 to complete this study at 100 percent Federal cost.

PINE CREEK LAKE RESOLUTION

Pine Creek Lake was authorized by the Flood Control Act of 1958 for the purposes of flood control, water supply, water quality, and fish and wildlife. The damsite is located on the Little River about five miles northeast of Wright City, Oklahoma.

A study to determine the feasibility of adding hydropower facilities to the existing Pine Creek Lake project is being conducted under the authority of Section 216, PL 91-611, December 1970. Preliminary studies, completed in October 1982, showed that a 40 mega-watt hydropower plant may be economically feasible. The Red River Valley Association recommends that the Corps of Engineers receive $50,000 to complete this study at 100 percent Federal cost.

LUKFATA PROJECT RESOLUTION

Lukfata Lake on Glover Creek in central McCurtain County in southeastern Oklahoma was authorized by the Flood Control Act of 1958 as a component of the six-reservoir system for flood control in the Little River Basin. All of the reservoirs except Lukfata Lake have been completed; without the Lukfata project, the system does not function as planned.

In the Energy and Water Development Appropriations Bill of .1982, HR97-177, 14 July 1981, the Committee on Appropriations directed the Corps, within the limits of available funds, to study the potential of hydropower generation at Lukfata Lake. A preliminary study was completed in May 1983. The study showed that a 65 mega-watt hydropower plant could be developed as a part of the project at the lower site.

Consultations between the U.S. Fish and Wildlife Service and the Tulsa District Corps of Engineers have resulted in an opinion by the USFWS that the proposed project would adversely affect an endangered specie the leopard darter and its habitat therefore threatening its continued existence. After reviewing the opinion, Tulsa District is considering a request for exemption from the Endangered Species Act. However, additional studies need to be accomplished to obtain information that could be an important element in designing a workable mitigation plan for inclusion in the exemption request. Those studies will be initiated upon receipt of additional study funds.

The Red River Valley Association supports continued studies of the Lukfata project by the Corps of Engineers at 100 percent Federal cost and request that $50,000 be appropriated for this purpose.

McGEE CREEK RESOLUTION

McGee Creek Lake was authorized for construction, operation, and maintenance in accordance with Federal Reclamation Laws by PL 94-123, September 28, 1976. McGee Creek Lake is located in Atoka County in Southeastern Oklahoma. McGee Creek is a northern tributary of the Red River. The damsite is about 3.4 miles about the confluence of McGee and Muddy Boggy Creeks. The project was authorized for water supply, flood control, and recreation. Construction began on the project in June 1982.

The Red River Valley Association strongly supports continuation of this project, and the concept demonstrated in the project of maximum development of the local economy by maximum utilization of opportunities provided by the project's development. The Association recommend the members of the McGee Creek Authority to continue to cooperate with the basin interests to fully develop the economic potential of this project for the benefit of the project area and the nation. The Red River Valley Association request that $7,755,000 be provided to continue this project.

SARDIS LAKE RESOLUTION

Sardis Lake is located at mile 2.8 on Jackfork Creek, a tributary of the Kiamichi River, about three miles north of Clayton. The lake was authorized in the Flood Control Act of 1962 for the purposes of flood control, water supply and recreation. Construction began in 1975. Impoundment of Jackfork Creek behind the structure occurred with the official gate closing in January 1983. The Dam and Lake were officially dedicated in June 1983.

As authorized, the recreation areas at Sardis Lake were to be constructed at full Federal expense. Recreation facilities estimated to cost $2,400,000 remain unconstructed. The Red River Valley Association strongly recommends Congress appropriate $500,000 of the remaining funds, at full Federal expense, to accomplish the recreation development at Sardis Lake in order to provide the benefits originally planned and authorized.

STATEMENT OF EAST CENTRAL WATER ASSOCIATION

The East Central Water Association is a voluntary group of citizens banded together in the interest of supporting water development projects and other natural resources development in the east central counties of Oklahoma. The ECWA promotes the orderly development of the area water and natural resources to advance the economic development and future wellbeing of the citizens of the five-county area. These Oklahoma counties are: Coal, Hughes, Pontotoc, Pottawatomie and Seminole.

The five counties which comprise the East Central area have a combined population as in the 1980 census of approximately 134,000 people. This five-county area is the most rapidly growing area in southeastern Oklahoma. It is an area which is not only experiencing significant population growth but also major expansion in the manufacturing and industrial sectors. Cities in these east central counties, such as Ada, Shawnee, Tecumseh, Seminole, Wewoka, Coalgate and Holdenville are in extreme need of an adequate municipal and industrial water supply.

However, at this time, there are no existing, under construction or authorized Corps of Engineers or Bureau of Reclamation lakes within the east central area. In fact, there are not any lakes which have a significant water supply storage capability within the area. Water rationing has been an regular occurrence over the past several summers for nearly all the communities within this area.

This critical need for future water supply is clearly demonstrated by the competition for the municipal and industrial water supply storge to be provided by the proposed Parker Lake located in the northern part of Coal County. Although construction of this lake has not even been started, applications for water rights already exceed by 10 times the amount of water which will be available from the lake.

The East Central Water Association, at its annual meeting (22 March 1986 - Ada, Oklahoma), adopted the following resolutions (A through D) and hereby ask that this subcommittee consider the request of each. Enclosed immediately following the above mentioned resolutions are resolutions adopted by the governing bodies of several of the communities in the area in support of Parker Lake. The membership and area represented by the East Central Water Association thanks you for your attention and the opportunity to testify before this subcommittee.

RESOLUTION A

NORTH DEER CREEK WATERSHED

WHEREAS, the Soil Conservation Service has completed the Watershed Plan and Environmental Impact Statement for the North Deer Creek Watershed and submitted said plan to the Washington office of the USDA-SCS; and,

WHEREAS, said plan consists of the following project measures: (1) multipurpose structure for retarding flood water and for municipal, industrial and recreation water storage; (2) recreation facilities; and (3) mitigation measures, AND FURTHERMORE the total project cost is estimated to be $15,091,210 of which $3,223,680 will be provided from PL 83-566 funds and the remaining $11,867,530 from other funds, AND FURTHERMORE, the project has a benefit-cost ratio of 1.06:1; and, WHEREAS, the Cleveland County Conservation District, Oklahoma County Conservation District, Shawnee Conservation District and Pottawatomie County Development Authority, as local sponsors, have agreed to the plan and proposed cost sharing agreements.

NOW THEREFORE BE IT RESOLVED, the East Central Water Association (ECWA) strongly supports this project and urges prompt approval of this plan by the Secretary of Agriculture and the Office of Management and Budget (OMB); AND BE IT FURTHER RESOLVED, the ECWA requests that both the House Committee on Public Works and Transportation and the Senate Committee on Environment and Public Works authorize the project; AND BE IT FURTHER RESOLVED, the ECWA requests OMB to approve this project as a new construction start in 1987; and BE IT FURTHER RESOLVED, that the ECWA requests the HOUSE AND SENATE APPROPRIATIONS COMMITTEES to include sufficient funds to construct this project in the 1987 appropriations for the PL 83-566 program; AND BE IT FURTHER RESOLVED, the ECWA requests the Washington office of the USDA-SCS to apportion sufficient funds for said project to Oklahoma and that the Oklahoma State Office of the USDA-SCS establish this as its first priority for PL 83-566 funds within the State of Oklahoma in order for construction of the North Deer Creek Watershed to begin as soon as possible.

RESOLUTION B

EAST CENTRAL OKLAHOMA WATER SUPPLY STUDY

WHEREAS, the Bureau of Reclamation was authorized to conduct this study by PL 93-360, dated July 16, 1984, entitled "Appropriations for Energy and Water Development for FY 1985", AND FURTHERMORE, the 1986 Energy and Water Development Appropriations Act, PL 99-141 provided $300,000 for the continuation of this study; and,

WHEREAS, the purpose of this study is to serve as a guide toward the most beneficial development of the water and related land resources for municipal and industrial (M&I) water supply system, hydroelectric power, navigation, irrigation, flood control, recreation, and environmental enhancement purposes; AND FURTHERMORE, that this study covers all or parts of Coal, Hughes, Lincoln, Okfuskee, Pontotoc, Pottawatomie and Seminole counties, an area of Oklahoma in which there are no existing, under construction or authorized Corps of Engineers or Bureau of Reclamation lakes or any lakes with a significant water supply storage capability; however, an area in which such cities as Ada, Shawnee, Tecumseh, Seminole, Wewoka, Coalgate and Holdenville are in extreme need of an adequate M&I water supply and where water rationing has been a regular occurrence over the past several summers; and,

WHEREAS, the proposed FY '87 Federal Budget for the Southwest Region of the Bureau of Reclamation includes no funds for the continuation of this study, AND FURTHERMORE, the Bureau of Reclamation has testified before Congress that the work elements included in the Plan of Study for this project can not be completed with FY '86 funds, thereby resulting in this study being stopped without conclusions or recommendations.

NOW THEREFORE BE IT RESOLVED, the East Central Water Association (ECWA) strongly supports this study effort and requests that Congress appropriate $300,000 in the FY '87 Energy and Water Appropriations Act for the continuation of this study.

RESOLUTION C

PARKER LAKE, OKLAHOMA

WHEREAS, the Corps of Engineers completed an Interim Survey Report on Parker Lake in 1975 as an early action project recommended in the Red River Below Denison Dam Comprehensive Basin Study; AND FURTHERMORE, the project was recommended for construction by the Chief of Engineers (OCE) in his 30 May 1980 report; AND FURTHERMORE, a report recommending the construction of the project was approved by the Office of Secretary of the Army (OSA) and transmitted to the Water Resources Council on 15 January 1981 and was returned to the Assistant Secretary of Army (CW) in October 1981 as a result of the Water Resources Council being discontinued; AND FURTHERMORE, said report with a recommendation to construct the project was transmitted to the Office of Management and Budget (OMB) on the 25 April 1985 by the Assistant Secretary of the Army (CW).

WHEREAS, said report recommends Parker Lake as a multipurpose project on Muddy Boggy Creek which would provide protection against the standard project flood, and a dependable water supply of 42 million gallons per day for municipal and industrial (M&I) purposes, recreation lands for future use, and fish and wildlife mitigation, AND FURTHERMORE, the total project cost is estimated at $48,100,000 and has a benefit-cost ratio of 1.2:1; and,

WHEREAS, the Parker Lake project was authorized for construction by PL 99-88, 15 August 1985 (FY '85 Supplemental Appropriation Act) contingent upon the execution of a local cost-sharing agreement with a non-Federal entity under terms and conditions acceptable to the OSA by 30 June 1986; and,

WHEREAS, the Oklahoma Water Resources Board (OWRB) and the RedArk Development Authority (RedArk) both indicated a willingness to agree to be the non-Federal sponsor and met with the Tulsa District COE on 13 August 1985 to discuss a cost-sharing agreement for Parker Lake consistent with OCE and SWD directions; AND FURTHERMORE, OWRB provided a draft letter of assurance (LOA) to the Tulsa District on 4 September 1985 and in said draft LOA OWRB agreed to non-Federal cost sharing as allowable under the provisions of Senate Bill 1567; AND FURTHERMORE, no official response from the OSA to its draft LOA has been received by OWRB.

WHEREAS, on the 12 December 1985, the OMB sent a letter to OSA stating that there is no Federal interest in constructing Parker because its flood control benefits are only eight percent of the total benefits; however, OMB has no objective to the completion of on-going planning and engineering by the COE, with the results turned over to local interest for their review and action.

WHEREAS, the 1986 Energy and Water Appropriations Act provided $600,000 for the Continuation of Planning and Engineering efforts on Parker Lake which are being used to complete certain Design Memorandums; AND FURTHERMORE, the COE testified before Congress that said FY '86 funds were not sufficient to complete all Design Memorandums necessary to construct the project; AND FURTHERMORE, the proposed FY '87 Federal Budget includes no funds to complete the remaining Design Memorandums; and,

WHEREAS, Parker Lake was approved by the House for construction in 99HR6 and is included for authorization in 99S1567.

NOW THEREFORE BE IT RESOLVED, that the East Central Water Association (ECWA) contends that (1) the OSA recommended the project for construction as a multipurpose project, (2) there exists no authorized criteria or guidelines which allow OMB to declare a project with only eight percent flood benefits a single purpose project, and therefore, there to be no Federal interest in its construction, (3) that Congress declare a Federal interest in Parker Lake by authorizing it for construction in PL 99-88, (4) that OMB has no authority to direct the OSA to not fulfill its responsibilities as established by acts of Congress, (5) the OSA has neglected to comply with the Congressional directive to realistically pursue a cost-sharing agreement with a non-Federal entity as per PL 99-88, (6) if current FY '86 funds are being used to develop certain Design Memorandums, the directive to complete on-going planning and engineering requires the OSA to complete all Design Memorandums, and (7) the OSA has no plans to complete the on-going planning and engineering as per OMB directive; AND BE IT FURTHER RESOLVED, that the ECWA request Congress to (1) authorize Parker Lake for construction in such a manner that its intent will be carried out by the OSA, (2) directs the OSA to complete all Design Memorandums and (3) to provide funds in the amount of $950,000 in the FY '87 Energy and Water Development Appropriations Bill to comply with the OMB directions to complete the on-going planning and engineering.

RESOLUTION D

USDA - SOIL CONSERVATION SERVICE

WHEREAS, the Soil Conservation Service (SCS) program has made a significant contribution to the proper management of our national water and related land resources; and,

WHEREAS, the continued proper management of such water and related land resources is still clearly in the national interest; AND FURTHERMORE, that the national goals and objectives which lead Congress to establish the SCS program have not been totally accomplished; and,

WHEREAS, the proposed FY '87 Federal Budget will reduce the funds available to the SCS for the continuation of its programs on a national level by $209.1 million (a 31.4 percent reduction from the FY '86 budget level); AND FURTHERMORE, result in the complete elimination of the PL-566, RC&D, Great Plains, River Basin, PL-539 and other important program components.

NOW THEREFORE BE IT RESOLVED that the East Central Water Association (ECWA) strongly supports the continuation of SCS Programs; AND BE IT FURTHER RESOLVED, that the ECWA requests Congress to provide sufficient funds for the continuation of these programs especially the PL-566 and RC&D activities.

RESOLUTION NO. 5323

A RESOLUTION EXPRESSING THE CONTINUED INTEREST OF THE CITY OF SHAWNEE, OKLAHOMA, IN THE DEVELOPMENT OF PARKER RESERVOIR AS A SOURCE OF WATER FOR ITS CITIZENS; AND DECLARING AN EMERGENCY

WHEREAS, one of the most serious problems facing the City of Shawnee is an inadequate supply of raw water; and

WHEREAS, due to this inadequacy, the City has had to implement a water rationing plan on several occasions; and

WHEREAS, various alternatives have been considered to supplement the present source of water; and

WHEREAS, it appears the development of Parker Reservoir southeast of Ada, Oklahoma, in Pontotoc County, is a practical alternative for the City of Shawnee in obtaining raw water to supplement its needs.

NOW, THEREFORE, BE IT RESOLVED BY THE MAYOR AND BOARD OF COMMISSIONERS OF THE CITY OF SHAWNEE, OKLAHOMA, that said City hereby expresses its continued interest and support for development of Parker Reservoir as a supplemental source of raw water for its citizens, as well as such for other communities and cities in the area.

BE IT FURTHER RESOLVED that the City urges the federal government to provide assistance for said Parker Reservoir Project so that the U.S. Corps of Engineers can proceed posthaste to expedite construction to allow the City of Shawnee and others to be receiving water from said source at the earliest possible date.

BE IT FURTHER RESOLVED that for the preservation of the public peace, health and safety, an emergency is hereby declared to exist by reason whereof this resolution shall be in full force and effect immediately upon its adoption.

PASSED AND APPROVED this 7th day of April, 1986.

RESOLUTION NO. 184(86)

WHEREAS, The City of Moore, Oklahoma, has experienced water shortage in the past due in part to the dropping of the water table in the Garber-Wellington Aquifer, and

WHEREAS, in the past the City of Moore, Oklahoma, has drilled additional wells in the Garber-Wellington Aquifer to satisfy their current needs, and

WHEREAS, from time to time the levels of selenium are above the maximum level as established by the EPA for safe drinking water in some of the wells, and

WHEREAS, The Association of Central Oklahoma Governments has made a study of the Garber-Wellington Aquifer, and found that the recharge of the formation is less than the present demand, and

WHEREAS, the City of Moore, Oklahoma, has determined that by the year 2005 that they will need as much as 15,000,000 gallons of wter per day, and

WHEREAS, The City of Moore, Oklahoma, desires to look forward and make arrangements for another water supply other than the Garber-Wellington Aquifer to assure safe drinking water in adequate quantities to serve the residents of the City of Moore, Oklahoma, and

WHEREAS, a study of east central Oklahoma water has identified possible water supplies in eastern Oklahoma, and

WHEREAS, the existing surface water is not economically available in sufficient quantities for the City of Moore, Oklahoma, in central Oklahoma, and

WHEREAS, Red Ark Development Authority has established a water resources task force with representatives from the U.S. Army Corps of Engineers, Department of the Interior/Bureau of Reclamation, USDA/Soil Conservation Service, Oklahoma Water Resources Board, and Tennessee Valley Authority to investigate strategies for the full development of area water resources, and

WHEREAS, the Red Ark Development Authority through its Task Force has identified Parker Reservoir as a potential water supply, and

WHEREAS, the City of Moore, Oklahoma, and Red Ark Development Authority has applied for water rights to Parker Reservoir from the Oklahoma Water Resources Board, and

WHEREAS, the Oklahoma Water Resources Board and Red Ark Development Authority has indicated a willingness to be a non-federal sponsor and have met with the Tulsa District Corps of Engineers to discuss cost sharing agreements for Parker Lake consistent with those allowed under Senate Bill 1567, and have submitted draft letters of assurance regarding said cost sharing agreements,

NOW THEREFORE, BE IT RESOLVED, that the City Council of the City of Moore, Oklahoma, requests that Congress continue to participate through funding of the Corps of Engineers with Red Ark Development Authority, Oklahoma Water Resources Board and other potential users to continue the planning and engineering on Parker Reservoir to ultimately complete construction.

ADOPTED this 7th day of April, 1986, at a regular scheduled meeting of the City Council.

RESOLUTION RS 85-86-8

WHEREAS, The City of Wewoka with a population of 5,480, serves as the County Seat of Seminole County, which has a population of 27,473; and

WHEREAS, The City of Wewoka has the responsibility to provide water for the residential, commercial and industrial needs of its citizens and in addition, is the source of water for three rural water systems; and

WHEREAS, The City of Wewoka and the entire County of Seminole have for several years experienced both quality and quantity problems with its existing water suppliers; and

WHEREAS, Alternative surface water sources do not exist and extensive pollution of the ground water aquifers exist; and

WHEREAS, Parker Lake has long been identified as a future source for municipal and industrial water for Wewoka and all of Seminole County;

NOW THEREFORE, BE IT RESOLVED, The City Council of the City of Wewoka asked that Congress authorize and fund the construction of Parker Lake as soon as possible.

PASSED AND APPROVED by the Mayor and City Council of Wewoka, Oklahoma, this 8th day of April, 1986.

STATEMENT OF LEONARD BRILEY, CITY MANAGER, ADA, OK, AND CHAIRMAN, EAST CENTRAL WATER ASSOCIATION

Mr. Chairman and members of the committee, I'm Leonard Briley, city manager of the city of Ada, OK, and also chairman of the East Central Water Association. As chairman of the association, I would like to encourage continuation of the study for complete water resource development of our association area. Water is one of our greatest natural resources and it is necessary for us to develop it to its fullest potential in order for us to develop our other resources to their potential.

I am sure you have been made aware of the fact that our area has been heavily dependent upon energy and agriculture for its economic base. These industries have been devastated recently by overproduction and bad policy at the national level. Consequently, we have a terrible outmigration of our young, educated, intelligent, productive, and very talented people, adding to poverty conditions that already existed in our area. We are begging and pleading for your help to get our water resources study moving again. We need your assistance. Our poor economic base will not allow our development of these resources on our own. However, we do have a great desire to help ourselves. You can help us by giving us the opportunity to help ourselves.

The city of Ada not only provides water for its city residents, but also to the entire populous of Pontotoc County through nine rural water districts. Since the beginning of its history, Ada has received its water from a spring and wells from the Arbuckle Aquifer some 11½ miles south of Ada. We have had our water rights challenged in court and lost the first round in district court. We appealed to the Supreme Court of Oklahoma. A decision has not been handed down. Even if we get a favorable decision, we still have potential ground water pollution and need desperately a backup source. We also need industrial development water. We have invested heavily in industrial parks and infrastructure, transportation, medical facilities, and education to make our city and county ready for industrial and economic development, but without additional sources of water, we cannot hope to get the private investment in our area that is needed. Parker Reservoir is desperately needed, along with treatment and distribution. A reasonable method of payback is also a must.

While the economic condition of Pontotoc County is very depressed, counties all around us are depressed even more with higher unemployment, less family income, and a very high percentage of senior citizens.

I will not read the resolution, but have included a copy for the record that the city of Ada City Council passed last monday evening for me to bring as their message to you.

Thank you for your time and consideration.

RESOLUTION

WHEREAS, Parker Reservoir is going to be very vital for the future development of the industrial and economic base of Coal, Hughes, Pushmataha, and Pontotoc Counties; and

WHEREAS, the city of Ada is involved in lawsuits now opposing its water rights from the Arbuckle Aquifer, creating an insecure situation for its water rights; and

WHEREAS, the water supply to be developed from Parker Reservoir would be an excellent source of water for industrial development and backup water for the Ada municipality, plus nine (9) rural water districts:

NOW, THEREFORE, BE IT RESOLVED by the City Council of the city of Ada, Oklahoma, that the city of Ada wishes to express its strong support for the Congress of the United States and the President to move ahead as quickly as possible to fund and build Parker Reservoir.

Dated this 7th day of April, 1986.

STATEMENTS OF:

GERALD ANTON, PRESIDENT, SALT RIVER PIMA-MARICOPA INDIAN COMMUNITY

LOUIS HOOD, PRESIDENT, FORT McDOWELL INDIAN COMMUNITY, ARIZONA

ACCOMPANIED BY:

PHILIP J. SHEA, TRIBAL ATTORNEY

RICHARD E. WILKS, TRIBAL ATTORNEY

ARLENE DE LOCHLER, COUNSEL, FORT McDOWELL INDIANS

Senator COCHRAN. The last witnesses we have on the agenda this morning will present testimony concerning plan 6 of the Central Arizona Project.

The Fort McDowell and Salt River Pima Maricopa Indian communities are represented here this morning and we welcome you to the subcommittee. We ask you to identify yourself for the record and proceed to make whatever comments you care to about these projects.

Mr. SHEA. Mr. Chairman, I will introduce Mr. Richard Wilks, legal counsel for the Salt River Indian Community.

Mr. ANTON. Mr. Chairman, my name is Gerald Anton, and I am president of the Salt River Community. The council of the Salt River Community has asked me to come before you to express the position of the community with regard to expenditures of yet more money for the development of water projects in central Arizona for the benefit of non-Indian citizens and to the continued exclusion of people and lands of the Salt River and Pima-Maricopa Indian Community.

In 1902, Congress enacted the Reclamation Act and the Salt River reclamation project was constructed. A major dam was built in the Salt River to form the Roosevelt Resevoir. The preexisting canals were purchased by the United States. Other dams and water delivery systems were built; massive water storage was created for the benefit of non-Indian farmers across the breadth of the Salt River Valley. The lands of the Salt River, Pima-Maricopa Indian Community, were shortchanged. They were excluded from the service areas of the projects.

The United States continued to substitute non-Indian water uses while denying congressional direction to supply the Salt River Indian lands with any water. The Secretary of Interior historically defers to the wishes of the non-Indian water users at the expense of the clear rights of the Salt River Pima Indian Community. There has always been plenty of water for non-Indians and scarcity of water for Indians in the Salt River Valley and the non-Indian water interests have come, again, to the Congress for more money, for more support for their water projects, while they have refused to recognize the water requirements of the people of the Salt River Pima-Maricopa Indian Community.

PLAN 6 OPPOSITION

After almost a year of negotiations, the Salt River Users Association has yet to accept the moderate proposal of Federal representatives, proposals which have been basically adopted by the Salt River Indian Community. The Salt River Pima-Maricopa Indian Community opposes all appropriations to implement plan 6 while the water rights of the Indian community are violated. We say that there should be no money appropriated by the U.S. Congress for water projects in central Arizona whose benefits will spread only to non-Indian water users to the continued exclusion of Indian people and Indian lands.

I think justice requires this and that is why we are here.

[The statement follows:]

STATEMENT OF THE SALT RIVER PIMA-MARICOPA INDIAN COMMUNITY

THE SALT RIVER PIMA-MARICOPA INDIAN COMMUNITY OPPOSES ALL APPROPRIATIONS FOR "PLAN 6" OF THE CENTRAL ARIZONA PROJECT, WHOSE BENEFIT FLOWS TO NON-INDIANS ONLY, SO LONG AS THE UNITED STATES FAILS TO ASSURE DELIVERY OF WATER TO THE SALT RIVER PIMA-MARICOPA INDIAN COMMUNITY SUFFICIENT TO SATISFY ITS RIGHTS.

I am Gerald Anton, President of the Salt River Pima-Maricopa Indian Community. The Council of the Salt River Community has asked me to come before you and express in clear and certain language the position of the Community in regard to the expenditure of yet more money for the development of water projects in central Arizona for the benefit of non-Indian citizens and to the continued exclusion of the people and lands of the Salt River Pima-Maricopa Indian Community.

One hundred and twenty years ago non-Indian settlers came into the Salt River Valley and began to appropriate lands which had historically been the lands of the Pima and Maricopa Indians. In 1879 the President of the United States set aside a reservation for the Pimas and Maricopas along the Salt River so that we could continue our traditional economy based upon irrigation farming.

We live in a desert land. Our ancestors, from prehistoric times, irrigated the valley with a sophisticated system of canals which have been duplicated and followed by the Reclamation Project canals installed in the last hundred years. The life of our people was always dependent upon a supply of water sufficient to produce adequate crops. Until about a hundred years ago our people irrigated their lands directly from the Salt River: partially damming that river and causing its waters to flow into canals irrigating the lands for the production of crops. About a hundred years ago a non-Indian canal company erected a dam and diverted the waters of the Salt River and its tributaries into the Arizona Canal which they constructed across our reservation and beyond that into the area which is now Scottsdale and Phoenix, Arizona.

Since that time control over water has been in the hands of others.

In 1902 the Congress enacted the Reclamation Act. The Salt River Reclamation Project was created as a result of that Act. A major dam was built on the Salt River to create Roosevelt Reservoir. The preexisting canals were purchased by the United States. Massive water storage was created for the benefit of non-Indian farmers across the breadth of the Salt River Valley, both north and south of the Salt River.

The lands of the Salt River Pima-Maricopa Indian Community were shortchanged. A committee of sixteen non-Indian water users stipulated to a division of the waters within the valley and that stipulation was accepted in a modified way by the Territorial Court in the Kent Decree as to the lands of the Salt River Indian Community. The lands of the Salt River Pima-Maricopa Indian Community were excluded from the service area of the Project.

The allocation of water to the Salt River Indian Community was so outrageous that in 1916 Senator Henry Fountain Ashurst of Arizona introduced and the Congress enacted a bill requiring the Secretary of the Interior to provide reclamation project water to the Salt River Indian Community sufficient to irrigate 6,310 additional acres of land. The Interior Department refused to comply with the Congressional mandate claiming that there was insufficient water for Indian use. Yet at the same time the Secretary of the Interior signed an order allowing the inclusion in the benefits of the Salt River Federal Reclamation Project of an additional 13,000 acres of land - all owned by non-Indians.

There has always been plenty of water for non-Indians and scarcity of water for Indians in the Salt River Valley.

In 1937 the Secretary of the Interior finally reacted to the Act of 1916 by entering into a contract with the Salt River Water Users Association agreeing to pay a nonreimbursable 20% of the cost of Bartlett Dam in return for the delivery of up to 20,000 acre feet of water per year to the Salt River Indian Community. Out of a Congressional right of in excess of 34,000 acre feet, deliveries not to exceed 20,000 acre feet were finally promised and in the early 1940's delivered.

By the early 1940's the Salt River Pima-Maricopa Indian Community had delivery rights agreed to by the United States and its agent, the Salt River Water Users Association, in the amount of approximately 38,000 acre feet per year. But that amount was rarely, if ever, delivered. The adjudicated water, the so-called Kent Decree water, constituted the best and first right on the Salt River. It was a right without storage privileges since the Community was excluded from the benefits of the Salt River Federal Reclamation Project. That right, a so-called normal flow right, is delivered to the Bureau of Indian Affairs Irrigation District on the Salt River Indian Reservation on a daily basis throughout the year. The farms of the reservation either use it on that day or lose it. Approximately 18,000 acre feet therefore in many years dwindled to 10,000 acre feet. Crops are grown seasonally and only Indian land suffered from the use it or lose it burden.

Non-Indian farming has prospered in the valley and waters of the Salt River Federal Reclamation Project are distributed not only to non-Indian farmers within the Project boundaries, but in the amount of over 175,000 acre feet per annum to two districts outside the boundaries of the Project. The lands of the Salt River Indian Community receive such a miserly amount of water that without extensive groundwater pumping, scarcely 6,000 to 7,000 acres could be farmed out of the 28,000 irrigable and arable acres within the reservation.

We have petitioned the Congress for redress, we have sat in long and fruitless negotiating sessions with the Salt River Project, the State of Arizona and the United States; we have pleaded before tribunals of the Interior Department to allow the continued construction of the Central Arizona Project at a time when its demise had been planned and the date of its execution set; we have been patient, incredibly patient; we have finally brought lawsuits to protect and determine our rights; and at the request of members of the Arizona Congressional delegation have once again entered into negotiations with the Salt River Water Users Association for final and complete settlement of our water rights.

I come here today to report to you that after over a year of discussions, with a background of ten years of engineering reports and other discussions and in the face of agreement by the Council of the Salt River Pima-Maricopa Indian Community that settlement ought to be reached in substantial accordance with the suggestions of the federal representative, we face still an unmoving wall. It is possible that that wall may move and the Salt River Valley Water Users Association and the Secretary of the Interior may yet understand that settlement of the water rights of the Salt River Indian Communty are necessary to final and peaceful solution of the water problems of the entire valley, but they have not done so to this day.

Therefore, I come at the instructions of the Salt River Pima-Maricopa Indian Community Council to advise you of our position that no money should be appropriated by the United States Congress for water projects in central Arizona whose benefits will spread only to non-Indian water users to the exclusion of Indian people and Indian land. Justice so requires.

Senator COCHRAN. Mr. Anton, thank you.

Are there others in the group who should be recognized to presented testimony? We will be happy to recognize anyone at this time?

Mr. Louis Hood?

Mr. HOOD. Yes, sir.

Senator COCHRAN. We have your statement and we will print a copy of it in the record. You can make any comment from it as you care to.

Mr. HOOD. Yes; thank you, Mr. Chairman, and members of this distinguished committee.

I am Louis Hood, a member of the Fort McDowell Indian Community, and I am the tribal chairman.

CLIFF DAM, AZ

The community has had a direct interest in the proposed budget. The proposed Bureau of Reclamation budget contains initial funding for a component of the Central Arizona Project known as Cliff Dam. Cliff Dam is to be constructed on the Verde River upstream from the Fort McDowell Community and will principally serve the water needs of the downstream cities south of the reservation. The U.S. Department of the Interior acknowledges that Fort McDowell Community has a federally reserved water right from the Verde River of at least 30,000 acre-feet per annum from the Verde.

In fact, the community receives no more than 7,000 acre-feet per annum from the Verde. Despite this situation, the Department of the Interior has made no provisions for either satisfying the community's federally reserved right from stored Cliff Dam water or imposing regulations on the operation of the dam to that end.

For these reasons, the community opposes the Federal appropriations for Cliff Dam.

It is undeniable that the Fort McDowell people have a federally reserved water right to the Verde River water. Yet the United States has constructed two reclamation projects to deliver the water to downstream users while bypassing Fort McDowell. Now the Bureau of Reclamation proposes to construct Cliff Dam that will deliver the Colorado river to downstream Verde users, again bypassing Fort McDowell. Aside from the Government's trust responsibility to protect the community's interest, the Government should, at a minimum, give the Indian water needs the same consideration given to non-Indian water needs. It has not done so in the Salt River Valley.

For reason of this unconscionable neglect, the Fort McDowell people oppose Cliff Dam as now proposed.

Thank you.

[The statement follows:]

STATEMENT OF FORT McDOWELL INDIAN COMMUNITY

Mr. Chairman and members of the committee. My name is Louis Hood and I am president of the Ft. McDowell Indian Community in Arizona. I am also a member of the Community's water rights negotiations committee. I appreciate the opportunity to present the Community's views on the fiscal year 1987 budget for the Bureau of Reclamation.

The Community has a direct interest in the proposed budget. The proposed Bureau of Reclamation budget contains initial funding for a component of the Central Arizona Project known as Cliff Dam. Cliff Dam is to be constructed on the Verde River upstream from the Ft. McDowell Community and will principally serve the water needs of the downstream cities south of the reservation. The United States Department of the Interior acknowledges that the Fort McDowell Community has a federally reserved water right to Verde River water of at least 30,000 acre feet per annum. In fact, the Community receives no more than 7,000 acre feet per annum from the Verde. Despite this situation, the Department of the Interior has made no provision for either satisfying the Community's federally reserved right from stored Cliff Dam water or imposing regulations on the operation of the dam to that end. For those reasons, the Community opposes federal appropriations for Cliff Dam.

The Department's failure to take the Community's federally reserved water rights into account in the planning of or operational criteria for Cliff Dam is not a new experience for the Fort McDowell Community. Two reclamation dams have already been constructed in the watershed that could have but did not provide water for the Community. In 1911, the United States constructed Roosevelt Dam on the Salt River, which joins the

Verde River just south of the Fort McDowell Reservation. Because of its storage capacity of 1.3 million acre feet, Roosevelt Dam greatly increased the water supply available to the downstream cities, thereby diminishing significantly the cities' need for Verde River water. Yet no provision was made for increasing the Verde River water supplied to the Community. In 1939, the United States constructed Bartlett Dam on the Verde River north of the Fort McDowell Reservation. The Bartlett Dam also increased the water supply available in the system, but again no provision was made for meeting the Fort McDowell Community's water needs. Roosevelt and Bartlett Dams are currently operated by the Salt River Project under contract with the United States, as will be Cliff Dam. The existing contracts and the proposed Cliff Dam operational criteria impose no obligations on Salt River Project with respect to the Community's federally reserved water rights. Thus, the proposed Cliff Dam will be the third reclamation structure in the valley that will serve principally the water interests of non-Indian users to the exclusion of the Fort McDowell Community's legal rights.

It is undeniable that the Fort McDowell people have a federally reserved water right to Verde River water. Yet, the United States has constructed two reclamation projects that deliver water to downstream Verde users while bypassing Fort McDowell. Now, the Bureau of Reclamation proposes to construct Cliff Dam that will deliver Colorado River water to downstream Verde users, again bypassing Fort McDowell. Even aside from the government's trust responsibility to protect the Community's interests, the government should at a minimum give Indian water needs the same consideration it gives non-Indian water needs. It has not done so in the Salt River Valley. For reason of this unconscionable neglect, the Fort McDowell people oppose Cliff Dam as now proposed.

The Community has attempted itself to assert its water needs. In 1980, it filed suit in federal court to obtain a quantification of its right. That federal action is now being held while the state court attempts to adjudicate all water users' right in the Salt, Verde and Gila Rivers, a process that will take decades to complete. The Community has also attempted to settle its water claims through negotiations with the Salt River Project, the valley water users' association. Thus far, those negotiations have not been productive.

The Community is aware, of course, that its opposition to Cliff Dam does not solve its water needs. The Community intends to take additional steps for that purpose. It will seek special legislation allowing it to sue the United States for breach of trust in failing to protect the Community's federal reserve water right at the time of the construction of Roosevelt and Bartlett Dams. The Community's lawyers have also been instructed to investigate the possibility of a breach of trust suit for failure to protect the Community's water rights in the construction and operation of Cliff Dam. Finally, the Community will exhaust all reasonable possibility of a settlement of its water claims; in the event negotiations fail, the Community will ask the Department of the Interior to impose regulations governing the operation of reclamation dams in the valley that will adequately protect the Community's interest. Until that time, however, the Community must oppose the construction of any additional reclamation dams that do not deal with the Community's needs.

STATUS OF LITIGATION

Senator COCHRAN. Thank you, Mr. Hood, for presenting your comments to the committee. We will review this very carefully. We appreciate your bringing this to our attention. You can help us by bringing us up to date.

Is there litigation that is now taking place that involves Cliff Dam or plan 6 of the Central Arizona Project? Is this tied up in litigation?

Ms. DELOCHLER. There is, Mr. Chairman. My name is Arlene DeLochler, counsel for the Fort McDowell industry. There is litigation brought by several environmental groups with respect to the Cliff Dam.

Presently, the Indian tribes are not involved in that litigation. We have made an effort to try to work with the local interests involved in Cliff Dam to resolve our water rights so we didn't have to get in that kind of posture. Therefore, those negotiations have not been successful, though.

Mr. SHEA. The Salt River Maricopa Indian Community has litigation with the U.S. Salt River Water Users Association, but not directly on plan 6 or the Cliff Dam proposal. But other matters involving the water rights of the Indian community and the use of the water which has been captured by the Salt River project, the nonuse of it by the Salt River Community.

Senator COCHRAN. We appreciate your bringing these matters to our attention, and your concerns about the appropriation of funds for the construction of the dam and for the other activities that relate to the Central Arizona Project. We will carefully review that, and it will be a part of our record. We thank you for completing our record in the way that you have.

Ms DELOCHLEAR. Thank you, sir.

Mr. SHEA. Thank you, sir.

RANDLEMAN DAM, NC—OPPOSITION

PREPARED STATEMENT

Senator COCHRAN. We have a statement submitted by the Deep River Citizens Coalition in opposition to the Randleman Lake project in North Carolina. That statement will be made part of the record.

[The statement follows:]

STATEMENT OF DEEP RIVER CITIZENS COALITION AND CITIZENS OPPOSED TO RANDLEMAN DAM

To: Members of the Subcommittee on Energy and Water Development

From: The Deep River Citizens Coalition and Citizens Opposed To The Randleman Dam

Date: April 10, 1986

Re: The Funding of The Randleman Dam

Despite other testimony you will receive with respect to the Randleman Dam project, there is extensive opposition to the project. With that in mind, the following concerns are presented:

I. Inaccurate Projections in the Randleman Lake Design Memorandum as prepared by the US Corps of Engineers.

A. Exaggerated Population Figures

According to 1980 Census figures, the Corps of Engineers overestimated population growth in the five-county area of Piedmont North Carolina by 55.3 percent. The key factor here is that by the year 2010 there will be 100,000 fewer people in this area than the Corps of Engineers projected if the census of that year shows the same rate of inaccuracy as the 1980 Census showed.

(E.P.I. The Randleman Dam, N.C. - Chuck Hoffman Report on The Randleman Lake, August 1982, p.8 - Corps of Engineers Design Memorandum, p. 202, Table 3-1)

B. Exaggerated Water Needs

There is not an immediate water supply shortage for the City of Greensboro, the main beneficiary of this project, which could not be addressed by undertaking a simple water conservation program according to a University of North Carolina Water Resources Institute report.

The Corps of Engineers estimates for water usage predict a 43% increase from the year 1975 to 2000. The highest estimates received from the US Water Resources Committee assumes only a 20% increase over the same period. This inflated data would erroneously overstate Guilford County's water needs by a 12.35 million gallons per day in the year 2000.

(E.P.I. The Randleman Dam, N.C. - CH2M Hill Report - Corps of Engineers Design Memorandum)

We would ask the Committee to examine the issue of why the Federal Government would build a $134 million water project to provide 48 million gallons of water per day, when the CH2M Hill study indicated that the year 2020 water demand for the area will only be 18.8 million gallons a day. WHY would we overbuild by a factor of 2.75 in these days of scarce federal dollars?

C. Corps of Engineers estimates of the 1973 value of crops and livestock marketed from the Randleman Site to be $250,000. This is totally unrealistic with current market prices. Chuck Hoffman, Project Director for the Rivers Conservation Fund, Washington, DC, reported in 1982 that agricultural production in the Randleman Take Area amounted to at least $4,175,000 annually.

II. Water Quality Questionable.

As the country is becoming increasingly concerned about water quality problems with respect to drinking water and surface water impoundments, we are increasingly concerned about the potential ticking time bomb we may get if the Randleman Dam is constructed:

A. According to a North Carolina Department of Natural Resource and Community Development Report, the deep River on which the Randleman Dam is to be constructed is "in a severe situation because of alarming concentrations of nutrients, toxic chemicals and metals." Project proponents say don't worry, a pipeline will be constructed around the reservoir so there will be no problem. Our concern is what the sediments of the river hold for our future generations and what will be the affect of numerous waste sites which can be pointed out by local residents which will be covered by water if the lake is built.

B. The Corps of Engineers has a poor track record in North Carolina. Falls Lake near Raleigh and the B. Everett Jordan Lake in Chatham County have had serious problems with water quality. The Jordan Lake which the Corps of Engineers estimated would cost $30,000,000, actually cost $120,000,000 and the water still cannot be used without very expensive treatment.

Steve Tedder, who is affiliated with the NC Division of Environmental Management, assured the Randolph County Commissioners in an open meeting on September 17, 1985, that they could expect a miraculous decrease in pollutants in the waters of Deep River over a three-year period due to the new waste-treatment plants being built in High Point and Jamestown. He said very little about restrictions and cleanup measures for other pollutants. In his February 1985 report, however, he had "stressed the toxicity of the river - amonia, chlorine, copper, nickel, zinc and lead were found in the river bed."

When questioned about this at the September meeting, he stated that further study would probably show that these toxins originate from the waste treatment plants and that the new treatment plants would probably take care of this. This also contradicts his own statement in the Water Quality Evaluation - Upper Deep River Cape Fear River Basin 1983 Report, "However, none of these constituents can account for the measured acute effects. It is probable that other materials are contributing to the toxicity in the Deep River." This gives reason to believe that the geographics of the Randleman Lake could be jeopardized by the fact that it lies directly in the run-off area of High Point and Jamestown municipalities, making non-point source pollution an important factor in the protection of the proposed reservoirs.

(N C Natural Resources Community Development Report, p 3, paragraph 2)

III. Land Acquisition.

Among the inaccurracies of the Corps of Engineers Design Memorandum, is the estimate of the cost of land acquisiton:

A. 700 homesites to be taken at an approximate cost of $2,000 per acre.

B. 9,375 acres of timberland, including the timber, to be taken at a cost of $630 per acre.

The number of homesites within the take area will be much greater than this number and the cost of land is even more rediculous. This is just another example of the tremendous increase in the cost of the Randleman Dam if it is built, (over and above the Corps estimates) which will probably compare to the difference in the cost of the Jordan Lake which cost four times as much as the Corps of Engineers had estimated.

(Corps of Engineers Design Memorandum, Appendix 9, Table 9-2, p. 7)

IV. Alternate Sites.

The DRCC would like to ask why other sites have not been given serious consideration.

A. The Corps of Engineers offered two alternative sites which the DRCC feels should be considered: #1 a smaller reservioir could be constructed on Deep River in the 1980's and another one on Richland Creek in the year 2000. These were found to be considerably more economical than 1 large structure. "Sites 1 and 2, time-phased for construction in 1980 and 2000 respectively, would provide an equivalent water source as needs dictate."

B. Another alternative site would be a dam on Pole Cat Creek near Randleman. Black & Veatch and CH2M Hill, two responsible consulting firms, examined these alternatives and clearly showed them to be less expensive and more evnironmentally and socially sound alternatives. When the results of studies were presented to the Randolph County Commissioners in September 1985, they were told that the Pole Cat Dam would be more expensive to Randolph County than the Randleman Dam based on the formula for funding which was in affect at that time. This may not be the case if the formula is changed as is being considered to require more of the funds from local governments and less from the federal government.

(Corps of Engineers Design Memorandum, Appendix 9, page 4 - Alternative Water Supply Study For the Upper Cape Fear River Basin CH2M Hill Report, p. XI)

V. Additional Costs.

The initial cost of pumping 48,000,000 gallons of water per day was estimated at $16,398,000 per year. What would that amount to at todays prices? Water from the Randleman Lake will not only have to be pumped, it will have to be treated. The cost of treatment facilities range from $10,000,000 to $280,000,000 as evidenced by House loans to municipal governments.

Perhaps the most important fact that both citizens and legislators should be aware of is that this will be an annual cost not included in the cost of the project.

VI. Let's Avoid Another Potential Problem Reservoir in North Carolina.

A Courier Tribune article by Kerry King, (copy included) reported that the Chatham County Commissioners are continuing their struggle with state and federal officials for funding for the B. Everett Jordan Lake. The board plans to ask that a bill be passed in the legislature's next session to provide state funding for services at the 14,000 acre reservoir. The county has been requesting additional state and federal funds to pay for law enforcement, fire protection, garbage collection and other services around the lake, as well as funds to make up the loss of $150,000 in property taxes each year from the tax-exempt project. Chatham County Manager , Marvin Hoffman, has estimated the cost of providing necessary services to the estimated 3,000,000 annual visitors will be $250,000 per year.

LAKE FUNDING STRUGGLE CONTINUES

(By Kerry King, Courier-Tribune Staff Writer)

PITTSBORO—The Chatham County Commissioners yesterday continued their struggle with State and Federal officials for funding for the B. Everett Jordan Lake with a new plan to lobby State representatives for financial assistance.

At its bimonthly meeting yesterday, the board asked County Manager Marvin Hoffman to invite the county's legislative delegation—State Representatives Anne Barnes and Joe Hackney (D-24th), and State Senators Russell Walker and Wanda Hunt (D-16th)—to meet with them in early January to discuss the problem.

The board plans to ask that a bill be passed in the legislature's next session to provide State funding for services at the 14,000-acre reservoir, which opened in 1982.

"We have to look to the State for some assistance," County Attorney Robert Gunn told the board. "I don't think the Federal Government will help."

The county has been requesting additional State and Federal funds to pay for law enforcement, fire protection, garbage collection, and other services around the lake, as well as making up the loss of $150,000 in property taxes each year from the tax-exempt project.

The county's efforts to date have not been successful in receiving a funding commitment from the State or Federal Government.

The U.S. Army Corps of Engineers has estimated the lake will draw 3 million visitors annually once the facilities are completed within 3 years.

Hoffman has estimated the cost to the county of providing necessary services to that number of visitors will be $250,000 a year.

Last month the commissioners requested a meeting with Gov. Jim Martin to discuss the problem. But in a letter to the board, Martin said that because of a heavy schedule he had asked Thomas Rhodes, secretary of the N.C. Department of Natural Resources and Community Development, to look into the matter.

The board has also sought Federal help from 4th District U.S. Representative Bill Cobey. But Cobey has responded that the State, which will be taking the lake over from the Corps of Engineers by 1989, should provide the funds.

Cobey and the commissioners have suggested that fees charged by the State for use of the lake's recreation areas be directed to the county.

Hoffman told the board at its October meeting that the Corps had eliminated this year a $10,000 allocation paid for county services at the lake annually.

He also noted that the Federal Government was considering eliminating a $30,000 allocation per year paid to the county to offset the loss of $150,000 in property taxes.

"We have to keep pushing and keep the problem in the public's eye," Hoffman said.

In other action, the board:

Considered a request from the Orange Water and Sewer Authority for the commissioners' endorsement of a plan to upgrade University Lake and Cane Creek Reservoir watersheds to a more protected status. Several Chatham County creeks drain into those watersheds. The commissioners expressed concern that the new water classification, which prohibits municipal and industrial waste discharges into the water supply, might hinder industrial development in the area. They requested that a representative of the authority meet with them to discuss their concerns.

The Corps of Engineers has eliminated a $10,000 allocation paid for county services at the lake annually. Hoffman also noted that the federal government was considering eliminating a $30,000 allocation per year to be paid to the county to offset the loss of $150,000 in property taxes.

The DRCC is aware that the size of the Randleman Lake will be considerablly less than the Jordan Lake acreage but it is convinced that the loss of tax revenue would probably be about equal because of the increased land values in the urban area which will be taken if the Randleman Dam is built.

VII. DRCC Requests To The Subcommittee on Energy and Water Development.

A. That the committee request an explanation from the Chairman of the Randolph County Commissioners explaining the reversal of their position regarding the Randleman Dam as they had published it in a position paper. (Copy attached)

B. The the committee support Representative Bill Cobey's stated reservation that he will not give approval to the Randleman Dam until the amount of land acquisiton is substantially reduced.

In Letters to Officials

Board Spells Out Position on Dam

Editor's Note: The following is the text of a "Position Paper" stating the views of the Randolph County Commissioners on the proposed Randleman Dam project on Deep River. This is the text of letters sent to U. S. Senators Jesse Helms and John East and Gov. Jim Hunt. The author is Darrell Frye, chairman of the Randolph County Commissioners.

The Randolph County Board of Commissioners has authorized me as the Chairman of the Board to state again our position concerning the proposed Randleman Dam Project proposed by the U. S. Army Corps of Engineers.

We are opposed to this project. Our position is not based on a narrow otectionist view of Randolph County operty or citizens. We base our position on e following factors: (1) a comprehensive ng-range overview of the water needs of our gion; (2) the problems of maintaining nimum water quality standards in Deep River; (3) the cost of the project to U. S. taxpayers and its effect on local tax rates; and (4) the preservation of valuable farm land vs. flood control benefits.

(1) The Board fully recognizes that Greensboro and Guilford County will need additional water sources by the turn of the Century. We support and want to cooperate with our friends to the North in meeting those needs.

Deep River is, however, the least desirable water source available to meet those needs. As you are aware, its head waters are at the Regional Airport located West of Greensboro. This is an area of rapid commercial and industrial growth. The river flows through the High Point area where it is twice impounded for the High Point City reservoirs. One of those lakes is already showing serious signs of premature aging due to excessive non-point source run off.

The river continues its course through the Jamestown area, another area of rapid growth, entering Randolph County. With the opening of the new I-85, the northwest experience increased commercial and residential development in the decades ahead.

The entire watershed for this proposed lake is, therefore, located in a region that will experience accelerated industrial, commercial and residential growth in the years ahead. This growth will result in continued and increasing problems of pollution of the proposed lake.

This pollution will not be solved by the treatment of point source effluent and sewage. The greater problem will be non-point source run off of impervious surfaces, uncovered lands, fertilized acreage and industrial storage. This non-point source run off is difficult, if not impossible, to control without the most stringent land use restrictions. The necessary restrictions would not only be difficult to pass and implement, they would put a damper on development of any kind. Commercial and industrial growth is the key purpose of obtaining additional water sources. Wake County has excluded all industrial and commercial development within their watershed areas. Durham County is doing likewise by placing limitations on the amounts of impervious coverage allowed.

Land use restrictions, coupled with discharge limits and requirements for industrial treatment facilities, will make the watershed area much less desirable as an area for potential industrial and commercial sites. On the other hand, the failure to impose such restrictions will inevitably result in rendering the lake unusable as a long-term water source.

There are at present no restrictions which have been approved by Guilford County to protect the watershed. Chemical drums located at facilities in Guilford County have not been cleaned up. Any responsible plans to use the Randleman Lake as a water source require the preservation of the watershed as an absolute prerequisite to the construction of the lake.

(2) The construction of this project on Deep River will require the building of a huge pipeline to carry the sewage discharged from the City of High Point around the lake to a point in the river just above the City of Randleman. The Corps of Engineers estimate that during low water periods, up to 50% of the water flow in Deep River below the dam will be from the sewage pipeline. Deep River is already a Class "C" stream, unfit as a water source or for use in fishing, boating or swimming activities. What will be the effect on the farms and towns downstream from this effluent outfall?

Common sense requires us to look ahead at least fifty years when preparing to invest millions of dollars in a water resource

project. Doesn't it make more sense to build smaller reservoirs on the numerous cleaner water sources located in Randolph and Rockingham Counties to meet the projected water needs of the region?

The City of Durham has rejected both Falls of the Neuse and Jordan Lake as water sources. Instead they are building a second reservoir to provide water for their city. Their reason being to have a safer source of water than that provided by the two lakes.

The City of Asheboro and the Town of Ramseur have recently completed dams and reservoirs that will provide high quality water sources for their needs well into the next century. The region has numerous clean water sources for impoundment of water on the Dan, Mayo and Uwharrie Rivers, as well as on smaller tributaries. Interbasin transfer agreements could certainly be negotiated. Such reservoirs would not require the ever increasing cost of watershed protection, restrictions and cleanup to the extent necessary in the proposed Randleman Lake Project.

(3) Current projections indicate that 48 million dollars would be required for governments to participate in the construction and use of this project. The investment of this amount of local funds is sufficient to construct a variety of alternative impoundments without substantial federal participation. Projected local cost figures by the Corps of Engineers do not include the loss of 10,000 acres from the Randolph County tax rolls.

The cost to federal taxpayers is just as real a cost as local taxation. There is an understandable tendency to view federal funding as a gift that someone else is paying for. All of us, however, are shouldering the burden of excessive federal spending, and we believe that the construction of smaller reservoirs for water impoundment is a method of saving several tens of millions of federal tax dollars.

(4) The primary job of the Corps of Engineers in dam construction is flood control. The Corps states that the primary flood damage centers that will benefit from this project are the Towns of Randleman, Worthville, Cedar Falls, Franklinville, Ramseur and Coleridge. Price figures used by the Corps for the value of properties located within the standard project flood plain do not take into account the age and use of the properties included. Many of these properties are mills which are no longer in use at all. More importantly, no mention has been made of the annual cost of permanently flooding 10,000 acres of prime agricultural land.

Usable farm land is becoming a scarce resource throughout the United States. Farm land should be factored into any equation in determining our resource needs in the future. The proposed Randleman Dam and lake would flood some of the most productive cattle and dairy farming acreage in North Carolina. There should be a balance in evaluating our resource needs. The loss of valuable farm land should be included as part of the true cost of this project.

We are, of course, aware that this project has been in the planning stages off and on for a number of years. We understand the surface attraction of funding this project primarily from federal tax dollars. We know that interbasin transfer would present a problem. We have evaluated the potential benefits of this project as well as its cost in arriving at our position on this matter.

It is our opinion that the only justification for the construction of this project and the expenditure of the monies involved would be as a water source for the Piedmont Region. We submit to you that there are cheaper, more efficient and more effective methods of impounding cleaner water than this project. The other reasons given for its construction, including flood control and recreation, simply do not stand the test of rational analysis. Corps' projections simply ignore hidden costs of land use controls, loss of farm land and pollution cleanup affecting the ultimate cost to the taxpayer, both in local ad valorem taxes as well as federal tax dollars.

We hope you will again review your position on this project before final funding is approved. If we may be of any service or provide any information concerning this project, please do not hesitate to let us know.

SUBCOMMITTEE RECESS

Senator COCHRAN. If there are no further witnesses who are here to testify, the subcommittee will stand in recess until 2 p.m. this afternoon.

[Whereupon, at 11:20 p.m., the subcommittee was recessed, to reconvene at 2 p.m. the same day.]

1550

(AFTERNOON SESSION, 2 P.M., MONDAY, APRIL 14, 1986.)

NONDEPARTMENTAL WITNESSES

OPENING REMARKS

Senator JOHNSTON [presiding]. The subcommittee will come to order.

In the absence of the chairman of the subcommittee, Senator Hatfield, I have been asked to chair today's subcommittee meeting. Senator Hatfield expresses his regrets that he cannot be here. However, on behalf of him and the subcommittee, I want to welcome each one of you to the hearing.

We have a large number of witnesses that wish to be heard. Therefore, in accordance with our notification to each of the witnesses, it will take some self-restraint on the part of everyone to hold oral testimony to a minimum in order that all of you who have requested an opportunity to testify may be heard.

So in keeping with the subcommittee's wishes, I ask that the detailed prepared statements that each of you has worked out very carefully be submitted for the record where they will be carefully reviewed by the subcommittee. That is the record that the subcommittee will study in determining its judgments for the upcoming recommendations this hearing year.

Also, in this way, we will have a detailed record so that anyone who is not present will be able to arrive at an independent judgment. Then if each witness will summarize or highlight the important points in his or her oral testimony, that will be most helpful to us.

Again, welcome. We will now proceed with our first witness. I don't believe our Alabama congressional Members are here at this time. If they come in later, we will recognize them at that time.

We would like to introduce our good friend Dale Miller and Mr. Duane Orr from the Gulf Intracoastal Canal Association.

GULF INTRACOASTAL WATERWAY

STATEMENTS OF:

DALE MILLER, GULF INTRACOASTAL CANAL ASSOCIATION
DUANE ORR, GULF INTRACOASTAL CANAL ASSOCIATION

Senator JOHNSTON. Gentlemen, welcome.

Also, Mr. Plomarity, the executive director of the Port of Corpus Christi is here.

Mr. MILLER. Mr. Chairman, if I may only take a minute, I am chairman of the board for the Gulf Intracoastal Canal Association. I am the Washington representative of the Port of Corpus Christi.

I have no separate statement of my own, but I want to associate myself with the remarks of Mr. Orr, who is president of the association, and Mr. Plomarity, who is executive director for the Port of Corpus Christi.

Senator JOHNSTON. Thank you, Dale. It was always a pleasure to have you here.

Mr. MILLER. Thank you, Senator Johnston. It is a pleasure to be here.

Mr. ORR. My name is Duane Orr. I am appearing before you for the second time today as president of the Gulf Intracoastal Canal Association, whose principal offices are located in Austin, TX. For many years, it has been Mr. Miller's and my privilege to appear before you in support of funding for the Gulf Intracoastal Waterway.

FUNDING REQUEST

Mr. Miller presently serves as chairman of the board for the Gulf Intracoastal Canal Association and we are appearing before you today in support of the adequate appropriations for the Corps of Engineers to continue maintaining the Gulf Intracoastal Waterway to its authorized dimensions and assure its efficient operation in accommodating the 93 million tons of commerce which it now handles.

We appear before you today supporting appropriations in the States of Texas, Louisiana, Mississippi, Alabama, and Florida holding some $36.7 million for maintenance of the waterway and $625,000 for presently authorized studies, both of which are included in the President's budgets.

In addition, we support the President's budget recommendation of $4.7 million to continue the construction of the Colorado River, gulf outlet, near Bay City, TX.

Additionally, we support the recommended appropriations of $190,000 for the Victoria Canal and $800,000 for the Aransas Pass Channel between Conn Brown Harbor and the Corpus Christi Ship Channel adjacent to Harbor Island, TX.

The Gulf Intracoastal Waterway has been in existence for 81 years, having been formed in 1905 in Victoria, TX. It has been an active association through the years, working with Congress and Government agencies in the creation of the Gulf Intracoastal Waterway, a complex system of inland navigational facilities which has come to be regarded as the most remarkable artery of transportation in the United States.

ECONOMIC BENEFITS

Last year, the waterway handled some 92,848,000 tons of commerce, which exceeds over 19 times the figure of 5 million tons which was originally predicted for the waterway when it was initially authorized.

The commerce moving through the waterway in 1984 totaled 17,107,900,000 ton-miles. The Intracoastal Waterway and connecting waterways are all of vital importance to the gulf coast, both as to deep draft and shallow draft canals, either coincide with or are tributary to the Gulf Intracoastal Waterway. For this reason, our association is vitally interested in the continued development and improvement of these other waterway projects.

Accordingly, we earnestly request that the subcommittee give favorable consideration to the funding needs for all such navigation projects which have favorable benefit-cost ratios.

Mr. Miller and I appreciate having the opportunity to appear before you today in support of the Gulf Intracoastal Canal Association program whose goal is to promote economic, industrial, and recreational development of the gulf coasts of Florida, Alabama, Mississippi, Louisiana, and Texas by a system of waterways that provide both public, recreational, and low-cost water transportation benefits for the Nation.

Mr. Chairman, I appreciate my statement being filed for the record.

Senator JOHNSTON. Thank you very much, Mr. Orr. We appreciate your testimony and the job you are doing. We have a great community of interest, of course, all along the gulf. We want to support you, and we know you will support us in what we are doing here.

[The statement follows:]

STATEMENT OF THE GULF INTRACOASTAL CANAL ASSOCIATION

My name is J. Duane Orr. I am appearing before you for the second time as President of the Gulf Intracoastal Canal Association, whose principal offices are in Austin, Texas. For many years it has been Mr. Miller's and my privilege to appear before you in support of funding for the Gulf Intracoastal waterway. Mr. Miller is presently serving as Chairman of the Board of Directors for the Gulf Intracoastal Canal Association (GICA). We appear before you today supporting adequate appropriations for the Corps to continue maintaining the Gulf Intracoastal Waterway to its authorized dimensions in order to assure that its efficient operation will not be impaired. Many federally authorized shallow-draft and deep navigation projects are represented here today by well-informed witnesses who will appear during the course of your hearings. Therefore, my function will be to depict briefly a broader picture of the impressive development of the Intracoastal Waterway which has occurred along the Gulf Coast since the first segment of the Canal was authorized in 1925 and 1927.

REQUESTED APPROPRIATIONS

I appear before you today supporting appropriations for maintenance funds totalling $36,757,000 and study funds in the amount of $625,000,both items being included in the President's budget. This is not to imply that additional funds, within the limits of the Corps of Engineers capability could not used, but because of the necessity of limiting federal expenditures, the Association would be satisfied with the appropriation of the funds recommended in the President's budget.

In addition, we support the President's budget recommendation of $4,700,000 to continue construction of the Colorado River Gulf outlet at Bay City, Texas.

For the first time, the budget carries the Victoria Barge Canal and the Tributary Canal to Aransas Pass as separate items. We support the recommended appropriation of $190,000 for the Victoria Canal and $800,000 for the Aransas Pass Channel between Conn Brown Harbor and the Corpus Christi Ship Channel adjacent to Harbor Island,Texas.

PURPOSE AND HISTORY OF GULF INTRACOASTAL CANAL ASSOCIATION

Our Gulf Intracoastal Canal Association, one of the oldest waterway Associations in the United States was organized in 1905, 81 years ago. Through the years it has supported and actively cooperated with Congress and Government agencies in creating the Gulf Intracoastal Waterway (GIWW), a complex of inland navigation facilities which has come to be regarded as the most remarkable artery of transportation in the United States.

The GIWW has achieved by far the highest ratio of benefits to costs of any waterway in the nation--or in fact any other form of transportation. Preliminary figures for 1984 commerce on the waterway indicates the waterway handled 92,848,000 tons which exceeds by over nineteen times the figure of 5,000,000 tons which was originally predicted for the waterway when it was authorized initially. Commerce moved thru the waterway in 1984 totalled 17,107,900,000 ton miles. This represents almost a nine (9%) percent increase in commerce. It is a noteworthy fact that this waterway returns each year more than $26 in savings in transportation costs for every dollar which the Federal Government has expended in the construction, maintenance, and operation of this waterway.

I am aware these facts are known to many members of your Subcommittee, who have been close to this inland waterway system for years; but I review these facts briefly to place them in proper perspective in my appearance before you today in behalf of adequate appropriations to continue providing the transportation savings which the Intracoastal waterway and related deep-draft navigation projects provide. I have no hesitancy in asserting that past service provided by the GIWW fully justifies your favorable consideration of continuing maintenance appropriations for this waterway.

NEED FOR FURTHER WIDENING AND DEEPENING OF THE GULF INTRACOASTAL WATERWAY

With respect to the Gulf Intracoastal Waterway the most important future need will be the deepening and widening of the main canal to accommodate increased waterborne commerce and relieve some of the current navigational hazards. Congress has already authorized new dimensions for the busy segment of the waterway between

New Orleans and Houston increasing the depth from 12 to 16 feet and widening the canal from 125 to 150 feet and 200 feet respectively. We are confident that your Subcommittee shares the Association's awareness of the importance of this waterway. At the present time we are not requesting funds to initiate construction, since local right-of-way problems have yet to be resolved. Inasmuch as the authorized improvements span a distance of 350 miles, problems of rights-of-way and pipeline relocations and other items of local corporation such as the "hold harmless agreement" are of course formidable issues, but we intend to see that they are resolved. Our only request now to the Subcommittee is that you keep in mind the importance of this undertaking to the Nation until such time as we seek funds to commence construction.

It is a notable fact that during the period since these increased dimensions were authorized in 1966, commerce moving over the Waterway has more than doubled. In other words, if Congress found it desireable to authorize the deepening and widening of the waterway when the traffic was less than half of what it is today, what might be said of the waterways' actual needs and requirements now. Because of increased traffic the Association secured authorization from Congress for the Corps of Engineers to up-date its studies which led to authorization of the increased dimensions and the present study which is underway that may justify still further waterway improvements.

We are recommending to this Subcommittee that it provide funds in the amount of $625,000 which is needed by the Corps of Engineers in the New Orleans and Galveston Districts to bring this important investigation and study to an expeditious conclusion. These funds are included in the President's recommended budget.

INTERCONNECTING WATERWAYS AND THEIR IMPORTANCE TO THE NATION

Virtually all navigation projects along the Gulf Coast--both deep-draft and shallow-draft channels--either coincide with, or are tributary to, the Gulf Intracoastal Waterway. For this reason our Association has a vital interest in the continued development and improvement of these projects. Accordingly, we earnestly request that the Subcommittee give favorable consideration to the funding needs for all such navigation projects.

One of the most important objectives of the Gulf Intracoastal Canal Association is the extension of navigation into the hinderlands through the development of the principal tributaries. Of major importance in the eastern Gulf is the Tennessee-Tombigbee Waterway which was recently completed. Another project of major significance to inland navigation-was the completion of the Leland Bowman lock to replace the obsolete Vermillion lock. Continuing construction on the lock and dam 27 is also of importance to this Association since it will benefit traffic on the GIWW. Navigation to Shreveport via the Red River waterway, improvements to the Atchafalaya as well as replacement of an adequate size lock on the east bank of the Mississippi River and other projects that I have not specifically mentioned are equally important to this Association and will benefit the Nation as each project is completed.

NEED FOR ADDITIONAL ACCESS TO THE GULF FOR ENERGY RELATED INDUSTRIES

As important as the tributary streams into the hinderlands are to inland navigation, access channels extending outward to the Gulf, especially in view of the increased activity in offshore energy development are equally important to this Nation. Improvement of existing facilities, and construction of new and deeper channels as required is essential to this development--as well as increased dimensions for the many progressive ports that exist on the Gulf Coast. The Gulf Intracoastal Waterway is a vital part of this activity, and our Association urges that the Appropriations Subcommittee be responsive to these needs.

FUTURE LONG RANGE PROJECT NEEDS FOR THE BENEFIT OF THE NATION

Two other projects are of vital interest to the Association. These are the extension of the Gulf Intracoastal Waterway from St. Marks to Tampa Bay, Florida--the missing link in this project inland waterway system which if dredged would extend the canal along the entire length of the Gulf Coast.

The other Project which the Association considers of vital importance to the Nation is the Cross-Florida Barge Canal, which was authorized to connect the

Gulf and Atlantic inland waterway systems into a continuous navigation system extending from the Mexican border to the northeastern part of the United States. We look forward to the day that this project will be restored to an active status and can be completed and placed in operation. It remains our conviction that this connection is needed, and we look forward to the day when the Project will be reconsidered by Congress and it funded for construction.

APPROPRIATION OF FUNDS FOR STUDIES AND INVESTIGATIONS

Funds for studies and investigations, are equally important as are funds for construction. Without adequate appropriations realistic and beneficial public works program cannot be perpetuated. Funds in the amount of $625,000 have been requested by the New Orleans and Galveston Districts to continue the present ongoing study of further improvements needed to the waterway between New Orleans and Houston. Request for these funds are included in the President's budget. We wholeheartedly support this requested appropriation.

We also recommend that sufficient funds for rehabilitation of the waterway should likewise be supplied as needed to assure that the inland navigation system can operate at maximum efficiency.

CONSTRUCTION AND MAINTENANCE FUND REQUIREMENTS

Although requests for construction funds are customarily accorded, the greatest emphasis in these hearings, I would like to stress the over-riding importance of adequate appropriations for maintenance. Insufficient funds for maintenance often reduce the service rendered by existing rivers and harbors projects, with resulting losses in benefits which were available when the Project was completed initially.

PROPOSED CHANGES IN NATIONAL WATERWAY POLICIES

Even though continued Federal funding of this vital Gulf Intracoastal Waterway is of primary importance, perhaps the most important issues confronting us now are those currently under consideration by Congress. We are disturbed by pending legislation which would provide for an escalation of "user charges" on our inland waterways, and the assessment of "cost-sharing" or "cost-recovery" obligations on "local sponsor of projects" which actually are not local in character but are regional and even national in significance. All such proposals requires passing added costs along to the consumers, aggravating inflationary pressures which beset our economy. Such added costs will seriously imperil the role of navigation in the competitive market place of transportation. These issues are of major concern to all of us who are involved in our effort to develop and preserve a balanced transportation system serving the American public with a maximum degree of efficiency.

BUDGET CONSTRAINTS AND POTENTIAL IMPACT ON USERS OF THE GIWW

We realize during this period of severe Budget constraints that the problems confronting Congress are indeed formidable, and critical scrutiny must be applied to every budgetary item. But, we respectfully recommend that a long-range view be taken--a view of the potentially serious consequences which may be suffered by the imposition of additional burdens on the "users" and "local sponsors" of our national waterways system.

Congress has historically supported waterway projects which are accessible to all as a matter of national interest. This farsighted view of Congress has enabled the Nation's waterways to become the best in the world. The assessment of additional charges on the users, and on those who participate in the development of these waterways, could have a devastating effect on struggling marginal operators and on many small ports which depend on the waterways for their economic survival. We earnestly urge that Congress give thorough and deliberate attention to the gravity of this problem.

Mr. Miller and I appreciate the opportunity of appearing before you today in support of the Gulf Intracoastal Canal Association's program, which, succinctly stated, is to promote economic, industrial and recreational development of the Gulf Coast by a system of waterways that provides both public recreational and low cost water transportation benefits.

PORT OF CORPUS CHRISTI, TX

Senator JOHNSTON. Mr. Plomarity?

Mr. PLOMARITY. Thank you, Mr. Senator.

My name is Harry G. Plomarity and we are the local sponsor of the federally authorized Corpus Christi Ship Canal project. As per your request, I have filed a statement for the record, and I will just take a minute to summarize.

FUNDING REQUEST

I appear before you today requesting that Congress appropriate the following funds which are included in the President's budget. First, $7 million in construction funds to continue deepening and widening the Corpus Christi Ship Channel project pursuant to the 45-foot authorization given in August 1968.

Second, $2.75 million for maintaining the Corpus Christi Ship Channel as recommended in the President's budget. According to the latest Corps statistics, the Port of Corpus Christi ranked second in water commerce among Texas ports and was among the top 10 ports in the Nation in total waterborne commerce.

ECONOMIC BENEFITS

In 1985, Corpus Christi waterborne commerce totaled over 52 million short tons, up from the previous year. This tonnage represents a slight increase after having experienced a steady decline beginning in 1978.

Past congressional appropriations for construction and maintaining the Port of Corpus Christi since it first opened in 1926 certainly have been justified, and we appreciate your support. However, in order to complete the necessary improvements which are required to improve and maintain the ship channel to accommodate the larger ships and increased traffic, we respectfully request the appropriations as I just have outlined.

Thank you very much, sir.

Senator JOHNSTON. Thank you very much, Mr. Plomarity. We appreciate your testimony. And thank you again, Dale.

[The statement follows:]

STATEMENT OF PORT OF CORPUS CHRISTI AUTHORITY

My name is Harry G. Plomarity. I am Executive Director for the PORT OF CORPUS CHRISTI AUTHORITY of Corpus Christi, Texas, the local sponsor of the federally authorized Corpus Christi Ship Channel, Texas Project.

REQUEST FOR FUNDS

I appear before you today requesting that the 99th Congress 2nd Session, appropriate the following funds which are included in the President's FY87 budget.

A. FUNDS NEEDED TO CONTINUE DREDGING OF THE AUTHORIZED 45-FOOT PROJECT

Appropriate $7,000,000 Construction funds to continue deepening and widening of the CORPUS CHRISTI SHIP CHANNEL PROJECT, pursuant to the 45-foot authorization included in Senate Document No. 99, Public Law 483, dated August 13, 1968. The Corps' capability being the same as that in the President's budget.

B. FUNDS FOR OPERATION AND MAINTENANCE OF THE C.C. SHIP CHANNEL PROJECT

Appropriate $2,730,000 for maintaining the Corpus Christi Ship Channel as recommended in the President's budget.

DESCRIPTION OF AUTHORIZED BUT INCOMPLETED IMPROVEMENTS

The following authorized improvements have yet to be completed:

A. Widening and deepening the Tule Lake Channel and Tule Lake Turning Basin between Mile 26.10 and Mile 29.30. Funds to complete the Project to Mile 31.60, the head of navigation will continue as funds become available.

B. Constructing levees, dikes, weirs, and providing drainage, bridges,etc. necessary to contain the dredged material and return the effluent to the Corpus Christi Ship Channel in the vicinity of the Viola Turning Basin.

C. Widening and deepening the Viola Channel and Turning Basin to the head of Navigation at Mile 31.60.

STATUS OF AUTHORIZED IMPROVEMENTS TO THE CORPUS CHRISTI SHIP CHANNEL PROJECT

All improvements to the Corpus Christi Ship Channel Project (formerly Port Aransas-Corpus Christi Waterway) authorized prior to the 90th Congress, 2nd Session have essentially been completed. Table No. 1 below shows the existing, the completed, and the authorized dimensions of the respective reaches of the waterway between the Gulf and the head of navigation at Mile 31.60.

TABLE NO. 1
STATUS OF CORPUS CHRISTI SHIP CHANNEL PROJECT
EXISTING AND AUTHORIZED WATERWAY DIMENSIONS
(AS OF APRIL 1, 1986)

SECTION OF WATERWAY	EXISTING DIMENSIONS (IN FEET)		AUTHORIZED DIMENSIONS (IN FEET)	
DESCRIPTION	DEPTH M.L.T.	BOTTOM WIDTH	DEPTH M.L.T.	BOTTOM WIDTH
OUTER BAR CHANNEL	X	X	47	700
JETTY CHANNEL:				
OUTER END JETTY CHANNEL TO JETTY ENTRANCE	X	X	47 TO 45	700 TO 600
BETWEEN JETTIES	X	X	45	600
INNER BASIN AT HARBOR ISLAND	X	X	45	730 TO 1720
INNER BASIN TO FERRY LANDING AT PORT ARANSAS	X	X	45	600
PORT ARANSAS TO LA QUINTA CHANNEL JUNCTION	X	X	45	500
LAY BERTHS - PORT INGLESIDE	X	X	45	150
LA QUINTA JUNCTION TO CORPUS CHRISTI	X	X	45	400
LA QUINTA CHANNEL	X	X	45	300
LA QUINTA TURNING BASIN	X	X	45	800X1200
CORPUS CHRISTI TURNING BASIN	X	X	45	800
INDUSTRIAL CANAL	X	X	45	400
AVERY POINT TURNING BASIN	X	X	45	975X1050
TULE LAKE CHANNEL (AVERY POINT TO CHEMICAL TURNING BASIN)	X	X	45	400 MIN.
CHEMICAL TURNING BASIN	X	X	45	1200 DIA.
TULE LAKE CHANNEL (CHEMICAL BASIN TO TULE LAKE BASIN)	(A) 40	200	45	300
TULE LAKE TURNING BASIN	(A) 40	900	45	1000X1200
VIOLA CHANNEL (TULE LAKE BASIN TO VIOLA BASIN)	(B) 40	200	45	300
VIOLA TURNING BASIN	(B) 40	700 TO 900	45	1200 DIA.

X WATERWAY COMPLETED TO AUTHORIZED DIMENSIONS

(A) LEVEE CONSTRUCTION COMPLETED

(B) PLANS FOR LEVEES IN SUNTIDE AREA TO BE RELEASED TO CONTRACTOR SOON

DESCRIPTION OF CONSTRUCTION AND MAINTENANCE ACTIVITIES IN PROGRESS

A. DREDGING OF THE 45-FOOT INNER HARBOR PROJECT

1. Recently completed was the deepening and widening of the easterly reach of the Inner Harbor between Mile 21.90 and Mile 26.10. Completion of this contract resulted in about seventy-five (75%) of the Port's commerce being accessible to the 45-foot Channel.

2. A disposal plan acceptable to the Federal Agencies, (although not a 50-year disposal plan as originally proposed for widening, deepening, and maintaining the Inner Harbor) has been finalized and a record of decision made by the Division Engineer and filed with EPA.

3. Soil borings required for the next levee contract, which is planned for FY86 have been obtained. Plans and specifications for this contract (Suntide disposal area) are scheduled to be released to the Contractors for bidding in April, 1986.

4. The next scheduled dredging contract for widening and deepening within the limits of the Inner Harbor is scheduled to extend from the inshore end of the Chemical Basin (Mile 26.10) continuing through the Tule Lake Channel and Tule Lake Turning Basin to Mile 29.30. This contract is scheduled to be awarded in January, 1987.

5. Funds scheduled to be appropriated for maintenance dredging will be used to remove current shoaling from the Tule Lake Channel and Basin and repairing the levee toe in the Rincon disposal area where extensive shoreline erosion is occurring.

TO ACCOMPLISH THIS WORK SCHEDULED BY THE CORPS IN FY87 REQUIRES A CONGRESSIONAL APPROPRIATION OF $7,000,000 WHICH IS ALSO THE CORPS CAPABILITY. THIS AMOUNT IS INCLUDED IN THE PRESIDENT'S BUDGET.

B. OPERATION AND MAINTENANCE OF THE CORPUS CHRISTI SHIP CHANNEL PROJECT

Requested funds in the amount of $2,730,000 will be used to restore the Tule Lake Channel and Basin to its 40 foot depth and to repair the toe of the levees in the Rincon disposal area located North of the Corpus Christi Turning Basin.

TO ASSURE ADEQUATE MAINTENANCE OF THE AUTHORIZED PROJECT DEPTHS, THE AUTHORITY SUPPORTS THE PRESIDENT'S BUDGET RECOMMENDATION OF $2,730,000 FOR FY87 FOR MAINTAINING THE WATERWAY TO PROJECT DIMENSIONS.

JUSTIFICATION FOR CONGRESS APPROPRIATING FUNDS RECOMMENDED BY PRESIDENT

According to the latest Corps statistics (1983) the Port of Corpus Christi ranks second in waterborne commerce among Texas Ports and was among the top ten Ports in the Nation in total waterborne commerce. In 1985, Corpus Christi waterborne commerce totalled 52,075,393 tons (PCCA statistics) up from 52,067,672 tons in 1984. This tonnage represents a slight increase after having experienced a steady decline beginning in 1978.

The decline in waterborne commerce at the PORT OF CORPUS CHRISTI during recent years can be attributed primarily to three factors; general worldwide economic conditions, sharp reduction in crude oil imports, and the loss of a major share of grain exports due to an explosion at the Corpus Christi public elevator which resulted in it being out of operation for almost two years. Since returning to service, U.S. grain exports have been far below those of previous years.

CONCLUSIONS:

In 1978 due to worldwide economic conditions and other factors waterborne commerce through the Port began to decline. However, in 1984,Port commerce increased to 52,067,672 tons and increased slightly again in 1985. Past Congressional appropriations for constructing and maintaining the PORT OF CORPUS CHRISTI since it first opened to world commerce in 1926 certainly have been justified. However, Congressional funding must be available as additional improvements are required to improve and maintain the ship channel to accommodate larger vessels and increased traffic.

We are concerned about the impact that Non-Federal O&M fees which are proposed will have on imports and exports thru the PORT OF CORPUS CHRISTI. International trade and world commerce generated by the Port of Corpus Christi clearly indicates that the public interest would best be served if such fees were not assessed against waterborne commerce.

However, if Congress in its wisdom opts to assess Non-Federal O&M fees under the present proposed legislation such fees must be administered fairly and equable, otherwise some ports may be adversely affected by such fees. Of concern to the Port of Corpus Christi is the effect such fees may have on grain exports-whether as a result of these fees grain exports will become non-competitive in world markets.

We are also concerned about the impact that these Non-Federal O&M fees may have on the Port of Corpus Christi since it is a major exporter and importer of ores and minerals. These fees, which are to be deposited in and appropriated from the Inland Waterways and Rivers and Harbors Trust Funds could be significant enough to result in cargoes being diverted from this port to other ports-possibly to ports in another Nation.

Federal expenditures on the 45ft project through FY85 has totalled $32,455,000. Non-Federal expenditures totalled $6,322,000 of which $1,867,000 was a cash contribution and $4,445,000 represented relocation costs.

Estimated Federal expenditures to complete the 45ft. Project is $26,045,000 Non-Federal expenditures of $2,328,000 includes $2,283,000 in cash and $45,000 in relocation costs. These estimated costs also include the construction of additional authorized layberths near Port Ingleside, Texas.

TABLE NO. 11
WATERBORNE COMMERCE AND TRAFFIC
CORPUS CHRISTI SHIP CHANNEL PROJECT

	TOTAL WATERBORNE COMMERCE & TRAFFIC (ALL DIVISIONS)			CORPUS CHRISTI WATERBORNE COMMERCE & TRAFFIC EXCLUDING HARBOR ISLAND		
YEAR	COMMERCE (SHORT TONS)		TOTAL (2) VESSEL TRAFFIC (ONE WAY ONLY)	COMMERCE (SHORT TONS)		CORPUS CHRISTI TRAFFIC (2) (ONE-WAY ONLY)
	U.S. CORPS OF ENGINEERS (3)	PORT OF CORPUS CHRISTI		U.S. CORPS OF ENGINEERS	PORT OF CORPUS CHRISTI (1) (2)	
1975	(A) 41,290,771	44,606,135	7606	(A) 35,478,454	37,945,544	5500
1976	43,492,959	48,293,793	7033	38,558,753	43,432,049	4782
1977	56,041,113	60,699,825	(B) 5446	46,732,810	53,705,517	(B) 4761
1978	54,678,296	61,246,725	(B) 6500	46,554,601	54,611,337	(B) 5529
1979	55,597,104	60,846,745	(B) 6991	46,422,792	54,121,877	(B) 6168
1980	45,087,364	53,506,420	(B) 7408	39,107,016	48,802,788	(B) 6822
1981	42,016,730	50,310,474	(B) 6786	39,148,522	47,545,612	(B) 6395
1982	37,993,976	43,152,365	(B) 5832	36,186,072	41,497,550	(B) 5500
1983	(X) 39,131,318	47,200,479	(B) 6374	-	45,363,444	(B) 6100
1984	-	52,067,672	(B) 6942	-	50,035,776	(B) 6630
1985		52,075,393	(B) 6082	-	51,036,612	(B) 5760

(1) Statistical information provided by the Port of Corpus Christi Authority. Port Authority records are maintained slightly different from those of the Corps of Engineers.

(2) Corpus Christi Commerce and Traffic includes the Corpus Christi Inner Harbor, Port Ingleside, La Quinta Channel and the Rincon Industrial Park. Harbor Island Commerce and Traffic is shown separately, but it is also included in the total waterborne commerce handled by the Port.

(3) Certain military cargoes and bunkers moving across the dock are excluded from totals but bunkers loaded on board ships from barges are counted as barge cargo. The Port of Corpus Christi Statistics are based upon actual records taken from the cargo manifests.

(A) From 1973 to 1975 the Bureau of Census failed to report most bauxite ores imported by Reynolds Metal Company.

(B) Beginning in 1977 each barge has been counted separately, but tugs handling the tows are not included in these totals.

(X) For some reason, the waterborne commerce shown appears to be in error.

Alabama Water Development Projects

STATEMENT OF HON. JEREMIAH DENTON, U.S. SENATOR FROM ALABAMA

Senator Johnston. Senator Denton has just come in the room, and if you gentlemen don't mind, I would like to call on my good friend and colleague, the great Senator from Alabama, Senator Jeremiah Denton.

Senator Denton. Thank you, Mr. Chairman. The chairman can afford to be very courteous and condecending toward me, because he beats me in tennis all the time, but I want you to know, Ted Stevens had his annual tennis touranament the other night, and I won it because you weren't there. [Laughter.]

I just want to thank you, Mr. Chairman, for allowing me the opportunity to express my support for the water resource projects that are of such vital economic importance to our State of Alabama, and I want to commend the chairman, as well as the acting chairman, for their support of the waterway projects in Alabama.

Senator Johnston has very parallel projects over in his State, and it has been a pleasure to visit New Orleans with people like Senator Domenici and Senator Abdnor, some time back, on the importance of these waterway projects.

O&M REQUIREMENTS

We have a number of waterway projects throughout the State that require sufficient funding for continued operation and maintenance. The Corps of Engineers, we think, Mr. Chairman, has made some pretty good estimates of what is actually required. This includes $19.6 million for the Tenn-Tom; $9.2 million for the Mobile Harbor; $12.2 million for the Black Warrior-Tombigbee; $7.9 million for the Gulf Intracoastal Waterway; $1.3 million for the Perdio Pass; $560,000 million for what they are referring to as Dauphin Island Bay; $293,000 for the Fowl River, and, Mr. Chairman, I live on Fowl River.

The fish will come in a little better if you let them dredge out there. [Laughter.]

I am requesting $600,000 for the Bon Secour Bay area, which is where we get those oysters that the people refer to as the Louisiana ones, and $500,000 for the Tensas. The appropriations have been requested for the construction of several projects, including $15 million for deepening the Mobile Harbor; $10.5 million for the Oliver lock and dam on the Black Warrior; $2.3 million for the Three Mile Creek flood control project in Mobile; and $560,000 for a study to deepen that project, and all of those, I know, personally to be worthwhile projects, essential to our economy in Alabama.

Our waterways, as have yours, have been particularly hard hit by competition from overseas. For us, it has been in the coal, steel, and textile industries, among others, and then the high value of the dollar, which have hurt us. Consistent development of our State's waterways is of major concern to all the business and industry development in Alabama. It is essential for providing adequate transportation to existing industry and continued growth and for linking the north part of our country to the South, bringing transportation from the very north borders all the way to the gulf coast.

We consider our waterways our greatest natural resource, and in the coming years, I believe both of our States, Mr. Chairman, will be brought into a much greater prominence than they have had. Yours has not been as low as ours on the ladder, but I think you are going to see Alabama really move up on the ladder if we give proper attention to our waterways.

ALABAMA-COOSA NAVIGATION SYSTEM

The President's request for the Alabama-Coosa River, including Clayborne lock and dam, is $4.9 million, but the Coosa-Alabama Association wants twice that. They feel strongly that $10.3 million is needed to address the problems with their navigation channel downstream, which is a subject of a great many letters we get from our constituents. I must stress the need for more money for the Alabama-Coosa navigation project. The 9-foot channel, during dry summer months is, at present, not consistently reliable, and it needs to be made so if industry is to take advantage of the river system from Montgomery to Mobile, which would be so economically beneficial.

So they need to finish the 2-year project which was begun in fiscal 1985. Environmental permit clearances have been delayed at the project since it is incomplete. We are confident the money will be completed during fiscal year 1987.

I am glad that through the efforts by the Interim Legislative Committee on the State Coosa project, the state has fulfilled its responsibilities with regard to the project.

NAVIGATION USER FEES

As you know, Mr. Chairman, Congress recently passed an omnibus water resource authorization bill that is a blessing in some ways and perhaps a curse in others. The bill included funding for many Alabama water projects, but at the same time would impose a heavy user fee upon the already struggling towing industry, and that will hit our State quite hard.

I hope we can look at that problem of user fees in terms of permitting water transportation to reach, realize its potential of increasing commercial activity, thereby increasing Federal revenues over the longer haul to a greater degree than they would be increased if we were to strangle that off, abort it, by making it unprofitable to use the waterways. They have been working on that for many years.

I know there has been improvement, but I think there is still room for further improvement, and we will appreciate any consideration you can give to our request for O&M, construction, and for some realistic look at the user fee situation.

I want to thank you and thank these gentlemen for deferring. I wanted to come here to meet some of my Alabama friends. I hope you didn't mind my shaking some hands back there.

Thank you very much, Mr. Chairman.

Senator JOHNSTON. Thank you very much, Senator Denton. We will have quite a challenge with Gramm-Rudman this year. It is like a little circus act where all the kids packed into the Volkswagen—we wonder how we will get it all in the bill. We don't know how we are going to do it, but we have got an extra half dozen kids we have got to put in the Volkswagen this year with the budget deficit.

Senator DENTON. If we pull it off, it reminds me of a Bob Hope movie, and they had a little Beechcraft that handled four passengers, and they stopped and opened the door, and about 25 people got out.

Again, thank you for your time.

STATEMENT OF SENATOR MATTINGLY

Senator JOHNSTON. Senator Mattingly, did you have some comments you want to make at this time?

Senator MATTINGLY. I know some of the people from Georgia have not testified before us yet. I would just like to join you, Mr. Chairman, in really welcoming our witnesses today who represent the public, business, and private sectors. I welcome the opportunity to get the input from the people back home who are really closest to the problems and the projects. I appreciate you taking the time to have these hearings which help us focus the attention of our subcommittee on the various aspects of the Energy and Water Development budget.

I am especially glad to welcome today the representatives from the Coosa River Valley, Coosa-Alabama River Improvement Association, and those in the Tri-Rivers group. They are a perfect example of the projects which might well have slipped from sight several years ago, but had it not been for really the dedicated job of the people from that area coming to Washington and making the Congress really aware of what is going on.

These projects continue to be important to these areas, as the traffic in business and industries located along the waterway, continues to increase.

I want to thank you very much for allowing me to make a short statement and welcome my friends from the Coosa Association for coming forth once again. And Mr. Harcourt, I think if I am not mistaken, back in 1980, you were one of the first people to really sit me down and explain these projects and what was going on in your association. I thank you for that.

[The statement follows:]

STATEMENT OF SENATOR MATTINGLY

I join you in welcoming our witnesses today who will be representing the public sector and the business and private interests from across the country. I always look forward to this part of our hearing schedule, Mr. Chairman, because it gives us a chance to hear from the people who are closest to these various problems and projects. I appreciate, as I know all of our colleagues do, hearing from those who take of their time in order to help focus the attention of our subcommittee on many aspects of the Energy and Water Development budget which might otherwise just be swept under the carpet or inadvertently dropped from consideration as we consider projects of larger scope.

I am especially glad to welcome today the representatives of the Coosa-Alabama River Improvement Association and those from the A-C-F, Tri-Rivers group. These are perfect examples of the type of projects which might well have slipped from sight several years ago if it had not been for the dedicated efforts of local officials, businessmen, and private citizens in coming to Washington with their message. These projects are important to the areas which they serve and they are growing more important with every passing year as traffic continues to increase and as new businesses and industries locate along the waterways.

Mr. Chairman, I know that we are also aware of other similar situations throughout the country, some of them from your region in the Northwest, others in the areas serving the Great Lakes and the Gulf of Mexico. So, I know that we will all welcome these groups and listen carefully as they present us with their needs, ideas, and suggestions. Thank you.

ADDITIONAL PREPARED STATEMENTS FROM ALABAMA CONGRESSIONAL DELEGATION

Senator JOHNSTON. Thank you, Senator Mattingly.

Before we call our next witness, the prepared statements of Senator Heflin and Congressmen Dickinson and Callahan of Alabama will be made part of the hearing record.

[The statements follow:]

STATEMENT OF SENATOR HEFLIN

Mr. Chairman, as you and the other members of this committee know, I have a deep and abiding interest in the development of the waterway resources in Alabama and our Nation. I appreciate the opportunity to appear before you today and join with spokesmen from the Alabama River development associations in support of funds for the continued and orderly development of water resources in Alabama.

Because of your crowded agenda, my remarks will be brief. It will be much more beneficial to this committee to receive the views and recommendations of those here today from the Alabama waterway development authorities who have traveled so far to present their cases to you on behalf of their respective waterway systems. The groups here today are dedicated to the principle that citizens of Alabama will realize and benefit from the vast potential of Alabama's rivers and other water resources. I warmly commend their testimonies to you.

Mr. Chairman, water is our State's richest and most abundant natural asset. In fact, Alabama is blessed with more miles of navigable waterways than any other State in the Nation.

As this committee is well aware, inland waterways are a vital component of America's transportation infrastructure. The availability of the efficient and reliable barge service is extremely important to the viability of key sectors of the U.S. economy and certainly the economy of Alabama. The economic livelihood of certain geographical areas may well depend on transportation efficiencies which only waterways can offer in delivery of raw and vital materials, access to distant markets, economies of scale and/or water-compelled freight rates. For all of these reasons and more, there is clearly a broad public interest in the inland waterway systems which justifies the request for continued Federal participation.

All of the projects for which we are seeking funds will serve several purposes at once; namely, better economic opportunities, more and better recreational opportunities, more jobs, and a better standard of living. Indeed, the overall quality of life in our State and elsewhere will be enhanced if we fund these projects and bring them to complete fruition.

I am most grateful to this committee for its interest in the full development of the water resources in Alabama. In Alabama, there have been billions of dollars in non-Federal water-related developments over the past 5 years. This is evidence that the Federal funds allocated by this committee are surely true investments. With your continued help, the developments will return rich dividends to our citizens and will confirm the faith and high expectations of this committee.

APALACHICOLA-CHATTAHOOCHEE-FLINT WATERWAY

Mr. Chairman, in my previous testimonies on the tri-rivers system, I have tried to stress upon this committee the severe navigation problems which have existed on the system. Those problems were particularly troublesome during periods of low river flow.

The main obstacles to navigation, the rock protrusions, have been removed. The Army Corps of Engineers has determined that the required 9-foot depth will be maintained approximately 90 percent of the year.

Given this navigation on a year-round basis, commercial use on the waterway has increased rapidly. The Tri-Rivers Waterway has just had the best year ever for commercial use, with 1,237,274 tons of cargo being shipped.

Mr. Chairman, this represents a saving in transportation cost alone of more than $6 million to industry in this region. Economic studies show that this commercial traffic has created 1,350 jobs, $22.5 million in personal income, and $1.95 million in State and local taxes in the Apalachicola-Chattahoochee-Flint Waterway basin.

Mr. Chairman, I think these numbers make it clear that maintaining a viable and active waterway is vital to the economic well-being of this area. I think that the committee would also agree with me that these figures indicate that moneys appropriated to the tri-rivers system has been a great investment of Federal moneys.

The President's budget request for the 1987 fiscal year is only $4.5 million for operation and maintenance funds on the Apalachicola-Chattahoochee-Flint Waterway. The Tri-River Waterway Development Association will testify to the need for the appropriation of the Corps of Engineers stated capability for this system of $5.9 million rather than the administration's budget proposal. I endorse their request.

Mr. Chairman, the Tri-Rivers Waterway Development Association also endorses the administration's recommendation to appropriate $300,000 to the Corps to continue its basinwide 308 study. This study will allow the Corps of Engineers to resolve issues identified in the 1983 memorandum of agreement by the three States.

Mr. Chairman, I urge the committee to approve the request set forth today for operation and maintenance funds, the additional funding under the stated capability, and the request for the survey and study funds needed to begin the quest toward maintaining the congressional authorized navigation channel.

WARRIOR-TOMBIGBEE WATERWAY

Mr. Chairman, I would thank you for this opportunity to appear before the committee on behalf of funds for the Warrior-Tombigbee Waterway.

It is my understanding that the President's budget for the 1987 fiscal year calls for approximately $12 million in operation and maintenance funds for the Warrior-Tombigbee River system. Mr. Chairman, this figure is not enough to cover the cost of day-to-day operations and support an ongoing program to correct long-standing deficiencies. For example, actions which have been ongoing incrementally for several years which are designed to increase the efficiency of the dredge material disposal and reduce recurring shoaling would have to be terminated. Orderly continuation of this program is essential to insure the efficiency and reliability of the Warrior-Tombigbee Waterway. I feel that the committee would agree with me that continuation of this program today will surely reduce future maintenance costs.

I would also like to bring to the attention of the committee, that the Corps of Engineers stated its need for an additional capability of $4,232,000 for operations and maintenance work needed beyond the $11.9 million request contained in the budget. Mr. Chairman, we need the Corps additional capability to be funded to insure sufficient day-to-day operations and a continuation of the ongoing programs that I previously mentioned.

A second item of extreme importance is funding for new construction of the replacement lock at the Oliver lock and dam ~~on the~~ Warrior River near Tuscaloosa. As you well know, authorization for the William Bacon Oliver lock replacement was included in the Water Resources Development Act that was recently passed in the Senate and was also included in the House of Representatives bill that passed last year. The Corps of Engineers has requested $10.5 million for the new Oliver Lock. This amount will support the orderly and timely placement of contracts and the accompanying work to replace this one remaining substandard lock on the Warrior-Tombigbee Waterway. This work should be done in 1987, therefore, it is essential that the committee approve the full $10.5 million.

I have had the opportunity to relay a brief history of the William Bacon Oliver lock and dam to this committee on several occasions in the past. I cannot pass up this opportunity again.

Ironically, Mr. Chairman, the Oliver lock and dam was the first structure constructed under the modernization program which contemplated the construction of 5 new locks and dams to replace the original system of 17 dams and 18 locks with the exception of the upper most structure in the system; namely, the John Hollis Bankhead lock and dam. Time and progress, however, has made the Oliver Lock obsolete as evidenced by the chronic barge congestion at the lock whose dimensions are only 95 by 460 feet. A new lock with standard dimensions is urgently needed if traffic on this busy river system is to continue unimpeded.

I urge the committee to approve the request that I and members of the Warrior-Tombigbee Development Association have set forth today.

COOSA-ALABAMA WATERWAY AND MOBILE HARBOR

Mr. Chairman, thank you for this opportunity to again appear before this committee on behalf of funds for the Coosa-Alabama Waterway and Mobile Harbor.

The President's budget proposal for fiscal year 1987 calls for $4.9 million for operation and maintenance of the Coosa-Alabama River project. The consistent reliability of the 9-foot channel during dry seasons is absolutely essential if industry is to recognize the advantages of river transportation from Montgomery to Mobile. Mr. Chairman, I would like to stress the need for an additional $5.4 million above the President's budget. The budget proposal is a serious deficiency which could threaten the future of efficient and reliable water commerce.

A total sum of $10.3 million is needed to finish the 2-year project begun in 1985. With this requested level of funding the Corps of Engineers should be able to complete the project during fiscal year 1987.

The President's budget also requests operation and maintenance funds in the amount of $10.5 million for four major projects along the Coosa-Alabama Waterway. The four projects include Millers Ferry lock and dam, Robert F. Henry lock and dam, Allatoona Lake, and Carters Lake. These facilities and reaches along the river system must be maintained so that powerplant output and navigation will operate at peak efficiency. I would add, Mr. Chairman, that the Coosa-Alabama River Improvement Association will seek to increase the funding for these projects by some $9.5 million. Their testimony will set forth the basis and justification for such a request.

Mr. Chairman, navigation of the Alabama River from Mobile to Montgomery became a reality over a decade ago. As always, I am optimistic about the Coosa River navigation project. I continue to hope that the next fiscal year will put us in a position to push for funds to extend the navigation on the upstream portions of the Coosa-Alabama River system. The uncertainties surrounding future authorization and funding for the Coosa River navigation project still exists, but Mr. Chairman, I must state that the Coosa-Alabama River Improvement Association and the State of Alabama have both committed to continue support for the project. The State has already fulfilled its non-Federal responsibilities with regard to the project.

The regional benefits of the projects are firmly established. Extending the navigation channel all the way to Rome, GA, is an excellent investment of public moneys. I ask that the members of the committee keep this project high on your list of priorities.

The proposed budget for fiscal year 1987 also requests $7.1 million for O&M for Mobile Harbor. The witnesses present today will provide the justification for approval of these and additional moneys for Mobile Harbor. The Port of Mobile is Alabama's only seaport and is certainly one of the Nation's greatest natural harbors. The Port of Mobile is also strategically located and for many years has ranked among the top 10 ports in the United States.

Mr. Chairman, I urge you and other members of the committee to approve the request presented by the Coosa-Alabama River Improvement Association.

TENNESSEE-TOMBIGBEE WATERWAY

Mr. Chairman, I continue to stand firm in my conviction that no project holds so much promise for the people of Alabama and our Nation as does the Tennessee-Tombigbee Waterway. I have been proud to stand with other supporters of the waterway in the fight to make the project a reality.

The results of a recent study conducted by the Army Corps of Engineers indicate potential shipments on the waterway to be 14.5 million tons during fiscal year 1986, the first full year of operation. This estimate of tonnage reflects current economic conditions including a greatly depressed export coal market and slumps in waterway use nationwide. In addition to these economic factors, the 18-month early opening found shippers, in many instances, not fully prepared to use the waterway for contractual and other reasons.

Mr. Chairman, I am sure you will recall that traffic on the McClellan-Kerr Waterway which opened in the early 1970's, also got off to a slower start than expected. However, as shippers began adjusting to that new waterway, tonnages began increasing dramatically, and within a few years exceeded previous estimates. I have every reason to believe that the Tenn-Tom experience will be just as encouraging.

For example, wood products are being shipped on the Tenn-Tom which were not anticipated only a few years ago. Also, chemical shipments have been much greater than expected.

Other waterway-related economic activities are occurring in the Tenn-Tom region. Fifteen ports, both public and private, have been built along the waterway and are in operation. Several more ports have been announced. I would also state that recreational usage on the lakes and canals along the Tenn-Tom have been very heavy and is steadily increasing. The waterway is expected to attract about 4 million visitors in this fiscal year.

Mr. Chairman, I urge the committee to approve the budget request for the operation and maintenance funds of the Tennessee-Tombigbee Waterway.

Thank you, Mr. Chairman.

STATEMENT OF REPRESENTATIVE BILL DICKINSON OF ALABAMA

Mr. Chairman,

Alabama, as you know, is blessed with a large number of waterways, many of which provide vital links of transportation from mid-America to the Gulf of Mexico, and numerous other benefits to the people and to the economy of our State.

The two waterway systems that directly affect the Second Congressional District of Alabama are the Coosa-Alabama and the Apalachicola-Chattahoochee-Flint.

It is on their behalf, and our other waterways, that I appear before you today in support of the Corps of Engineers' budget requests for operation and maintenance of these waterways, along with operation and maintenance for their supporting locks and dams, a basin study, and one request for construction funds on the Warrior-Tombigbee System in Alabama.

On the Coosa-Alabama System, as on our other waterways, the consistent reliability of the nine-foot channel during dry seasons is of major concern if industry is to recognize the advantages of river transportation, especially from Montgomery to the Port of Mobile.

The Coosa-Alabama's request for the Corps' full capability of $10,343,000 would help finish a large amount of clearing, dredging and repair work scheduled along the waterway including some resurfacing of roadways. The Corps' request for the Coosa-Alabama is only $4,924,000 and so I leave it to your good judgement as to the final figure appropriated.

Separate funding is requested for operation and maitenance and construction in Mobile Harbor.

On the Apalachicola-Chattahoochee-Flint, I am happy to report that unofficial figures show 1985 as a record-setting year for commercial use of what is popularly known as the Tri-Rivers.

Tonnage shipped on the system was approximately 1,237,274, which represents an increase of 26,274 tons over 1984 and the second straight year that tonnage has exceeded one million tons. When you consider the decreased movement of grain and coal nationally, this is great news for the Tri-Rivers, and it graphically illustrates that industry and shippers are regaining confidence in the reliability of the system. It is this reliability that we must continue to nuture and build in the days ahead.

The Corps has listed $5,907,000 in its budget for operation and maintenance and the Tri-Rivers Waterway Development Authority is asking for the full Corps capability of an additional $1.5 million. Also requested is $300,000 for a basin economic impact study, and operation and maintenance money for the Walter F. George Lock and Dam below Eufaula and the George W. Andrews Lock and Dam at Columbia.

The Warrior-Tombigbee Waterway System, which flows from the coal-dominated Warrior Basin in northwest Alabama, through various industrial sites around Birmingham, down to the Port of Mobile, has a system of modern locks and dams with one exception, the William Bacon Oliver lock and dam near Tuscaloosa.

The operational efficiency of this waterway is seriously impaired by the bottleneck caused by this one remaining substandard lock. It is a pre-World War II lock and is smaller in size than the other five. The small size necessitates tows having to be broken apart and having to utilize multiple lockages to get through. This is time consuming and causes added risk factors.

The Corps is asking $11,948,000 for the Warrior-Tom and the Corps full capability is $4,232,000 more. In addition, a new Oliver Lock and Dam would cost $10.5 million.

Mr. Chairman, I join you in being pleased with the progress made on another of our State's great waterways, the Tennessee-Tombigbee, which ~~is well~~ underway; and I would like to mention one small project in our State that has been of personal interest to me for a number of years, and that is the serious erosion problem at Fort Toulouse in Autauga County. If more attention is not shown, we will see one of our historic sites literally washed away. As you know, your subcommittee has already appropriated funds to help with the erosion problem but the Corps'authorization has been bottled up for years in water bills that have never passed. Fort Toulouse is included in HR 6 and SB 1567 which I understand will go to conference soon and it is my hope that this much-sought authorization can be accomplished.

May I close, Mr. Chairman, by expressing my appreciation to you personally for the guidance and leadership you have shown these Alabama projects for your years on this Committee. Alabama is, indeed, grateful to you.

STATEMENT OF REPRESENTATIVE SONNY CALLAHAN OF ALABAMA

COOSA-ALABAMA WATERWAY

Mr. Chairman, members of the subcommittee, I am happy to appear here today to voice my support for the fiscal year 1987 appropriation request for the Coosa-Alabama River System.

For operation and maintenance along the system, $30,368 million is requested in FY 1986. Specifically, $10,343,000 is required for O&M on the Alabama River; $4,336,000 for the Millers Ferry Lock and Dam; $3,448,000 for the Robert F. Henry Lock and Dam; $8,233,000 for Allatoona Lake in Georgia; and $4,008,000 for Carters Lake in Georgia. The total funding level, while above the budget recommendation, is necessary to ensure proper maintenance of the river system. Without adequate maintenance, the river will not achieve maximum efficiency and navigation will be impeded. Operation and maintenance work on the Alabama River will keep hydro power plants in good condition and will allow dredging and routine maintenance work to continue to provide us with the most energy-efficient means of transportation. If we do not provide adequate funds for dredging, snagging, spoils disposal, repair of public facilities, and other important maintenance work, we will only have more costly repair bills in the future.

Although the Coosa River Navigation Project, which would extend the navigation project from Montgomery to Gadsden, received a negative benefit/cost analysis, I am encouraged that the State of Alabama is seriously pursuing the project. There will be no request for construction funds in fiscal year 1987. However, State officials are working to increase its contribution to the non-Federal share of the project's cost. I am hopeful that we will be in a position to get the Coosa segment of the system on track in the near future.

Mr. Chairman, I appreciate having had this opportunity to voice my strong support for the Coosa-Alabama River System. Thank you for your consideration of my request.

BLACK WARRIOR-WARRIOR-TOMBIGBEE WATERWAY

Mr. Chairman, I am pleased to be here to voice my support for the fiscal year 1987 funding request for the projects included in the Black Warrior, Warrior, and Tombigbee River System.

The Black Warrior, Warrior, and Tombigbee Waterway is an extremely successful water transportation system. Some 80 percent of the Port of Mobile's coal traffic travels on the waterway. Over 5 million tons of coal move on the system to electric generating plants. Grain from 21 counties in Alabama and Mississippi is shipped to Mobile on the waterway. It also provides substantial movement for commodities such as ore, steel, forest products, petroleum, and chemicals.

The President has requested $11.948 million for operation and maintenance on the Black Warrior, Warrior, and Tombigbee System for fiscal year 1987. The Corps of Engineers' capability is $12.178 million. I believe that adequate operation and maintenance is crucial, and I hope you will approve an appropriate amount in this area.

The locks and dams on this system have been modernized, except for the William Bacon Oliver Lock and Dam. This facility is obsolete and is a bottleneck. Thanks to the leadership of this subcommittee, construction of a new lock and dam was authorized in last year's supplemental appropriations bill. Indeed, the Administration's 1987 budget request includes $10.5 million in initial construction funding for the Oliver Lock and Dam. That funding request assumes enactment of the waterways trust fund in authorization legislation now in conference committee. That trust fund would provide an additional $10.5 million for this project. I hope this subcommittee will approve an appropriate level of construction funding for the Oliver Lock and Dam pending ultimate authorization of the trust fund.

Thank you, Mr. Chairman, for permitting me to testify in support of the Black Warrior, Warrior, and Tombigbee River System and for your consideration of its needs.

MOBILE BAY AREA PROJECTS

Mr. Chairman, I am pleased to be able to submit my request for fiscal year 1987 funding for projects in the Mobile Bay area.

I am deeply grateful for this subcommittee's action in last year's supplemental appropriations bill which authorized deepening of the Mobile Harbor channel. It is also very encouraging that the Administration has requested $15 million in initial construction funds for the project. I urge the subcommittee to approve that request so that we can begin this critical work. In the meantime, it is imperative that we continue to provide adequate operation and maintenance in Mobile Harbor. I request $9,167,000 for that purpose.

Authorization of the flood control project for Three Mile Creek in Mobile is in the water resources bill now in conference committee. The Administration has assumed enactment of that bill and has requested $2.3 million to begin construction on the Three Mile Creek project. I urge the subcommittee's approval of this request.

The Corps of Engineers has been studying the feasibility of deepening the Bayou La Batre Channel for several years. The coastal area of Alabama has experienced a great deal of oil and gas exploration activity and this increased activity has further pointed to the need for this channel improvement. A $60,000 funding level is required to continue the Bayou La Batre Channel Deepening Study in Fiscal Year 1987. The Administration has recommended that level, and I request your favorable action on that request.

Most of our needs in the Mobile area have to do with vital ongoing maintenance activities. Our major industries, as well as commerce from other areas of the nation, are dependent on an efficient waterway system for the transportation of various commodities. Commercial and recreational fishermen depend on having access to fishing areas in authorized channels in Mobile Bay and the Gulf, and they depend on having reliable access to safe harbors. These are just a few of the reasons why maintenance activities are so important. I urge the committee's consideration of the Corps' full operation and maintenance capabilities on these projects: Gulf Intracoastal Waterway, $7,891,000; Dog and Fowl Rivers, $293,000; Perdido Pass, $1,323,000; Dauphin Island Bay, $560,000; Bayou Coden, $141,000; and Bon Secour, $680,000.

Thank you again, Mr. Chairman, for allowing me to testify in support of these important projects.

TENNESSEE-TOMBIGBEE WATERWAY

Mr. Chairman, it is an honor to come before you to add my enthusiastic support to the Tennessee-Tombigbee Waterway funding request for fiscal year 1987.

Construction of the Tenn-Tom is now complete and traffic is moving on the entire system. Some 2 million tons of commerce were transported on the system in its first year and use has grown rapidly from month to month. Competition from the Tenn-Tom has helped to lower rail rates significantly. Low transportation costs have generated nearly $250 million in new industries and created over 1100 new jobs. Some of the major commodities using the Tenn-Tom include coal, agricultural products, metals, petroleum products, and paper products. Shipments of wood products and chemicals have exceeded expectations.

Fifteen ports, both public and private, have been built along the Tenn-Tom and more are in the planning stages. Recreational usage on the waterway's lakes and canal has been very heavy. An estimated 4 million visitors will use these facilities in fiscal year 1986.

We have invested dearly in the project and must assure its adequate maintenance to protect that investment by allowing efficient commodity movement. The operation and maintenance funding level needed in fiscal year 1987 is $19.641 million. I hope the committee will approve this amount.

I appreciate having the chance to appear here today.

PREPARED STATEMENT OF GOVERNOR WALLACE OF ALABAMA

Senator JOHNSTON. We also have received a statement of Governor Wallace which will be placed in the record at this point.

[The statement follows:]

STATEMENT OF GOV. GEORGE C. WALLACE OF ALABAMA

I appreciate this opportunity to appear before this Subcommittee today along with my fellow Alabamians in support of navigation on the Black Warrior-Tombigbee Waterway in Alabama. Specifically, I endorse the request of the Warrior-Tombigbee Development Association and its supporters for continued funding of the full-time operation and maintenance of the Black Warrior-Tombigbee Waterway and of Mobile Harbor. Also, I want to thank this Subcommittee for its assistance to the Authorizations Committee in their approval to begin construction of the new Oliver Lock replacement.

In Alabama, we are blessed with strategically-located navigable waterways. The busiest of these inland waterways is the Black Warrior-Tombigbee Waterway which flows from the coal rich Warrior Basin in northwest Alabama, through its industrial heartland near Birmingham, southward via Tuscaloosa, Demopolis, and Jackson, to the Port of Mobile. This waterway is now linked to all of mid-America and the Great Lakes via the Tennessee-Tombigbee Waterway.

The chief commodities moved by the waterway are coal and grain. Over 6 million tons of coal move via this waterway to the electric generating plants in our area. Almost 70 percent of the coal traffic handled by the Port of Mobile arrives there by barge from the Warrior Basin for export to other areas of the United States and foreign countries. Farmers from 21 Alabama and Mississippi counties ship their grain to Mobile for export via the waterway. There are many other commodities moving on the waterway, such as ores, crude and fuel oils, steel products, chemicals, aggregates and wood products. Related industries, though still impacted by the world-wide recession, plan to grow and modernize. Tonnage moved on the waterway reached 18 million tons in 1984, the latest year for which we have official information.

Ever-increasing demands require that the Black Warrior-Tombigbee Waterway operate at peak efficiency on a full-time basis. This efficiency of the waterway is seriously impaired by the bottleneck caused by the one remaining substandard lock -- the Oliver Lock on the Warrior River. This pre-World War II lock is smaller than the other five locks on this system, all of which are the new standard size of 110 by 600 feet. This necessitates tows being broken apart and utilizing double lockages for passage. This magnifies the need for complete efficiency and reliability of the remainder of the system. I appreciate your support and approval of the $10.5 million authorized for FY 87 to initiate construction of the new Oliver Lock. This level of funding will support the timely and orderly placement of contracts and the other work which should be done in FY 87.

I join with the Warrior-Tombigbee Development Association in support of the Corps of Engineers' request for $11.948 million for the regular operations and maintenance (O&M) program of this waterway. However, we believe that $11.948 million will be inadequate for an effective O&M program. This is below the average amount which has been required over the past five years. This is a serious deficiency and threatens the future of efficient and reliable water commerce. Several projects, which are underway and designed to improve channel efficiency and reduce future costs, could not be continued with the proposed funding level of $11.948 million. Therefore, we request that $4.232 million be added to the budget item, making a total of $16.18 million for the 1987 O&M program.

Also, I support the Association's request for adequate funding for the operation and maintenance of Mobile Harbor. Mobile Harbor is vital to the ongoing operations of the Port of Mobile and the Black Warrior-Tombigbee Waterway. Over the past eight years, the State of Alabama through the Alabama State Docks Department, has invested over $250 million in expanded and improved Port facilities. The Alabama State Docks' facilities now offer the most advanced coal-handling technology available in this country. Similar improvements have been made for grain handling and bulk materials. It is interesting to note that the investment by the State of Alabama far exceeds the federal investment in building all the locks and dams on the entire waterway. In addition, I authorized creation of the Alabama Waterways Development Agency in 1985 to promote the development and utilization of all Alabama's waterways. My representatives have also been involved in the formation of the Gulf States Intracoastal Waterway Coordinating Committee, along with representatives of the states of Florida, Louisiana, Mississippi, and Texas, to provide a forum for discussion of the issues and opportunities related to the utilization of the Gulf Intracoastal Waterway.

I join with the Warrior-Tombigbee Development Association in support of these appropriations and confirm my continuing commitment to fulfill Alabama's part of these projects in the future. The State of Alabama has already expended millions of dollars in support of navigation on this waterway and will continue to provide the necessary resources to maintain it as a viable part of the inland waterway system.

Again, I appreciate this opportunity and thank this Subcommittee for its faithful support over the years.

COOSA-ALABAMA RIVER NAVIGATION PROJECTS

STATEMENT OF MS. MARY GEORGE WAITE, VICE PRESIDENT, COOSA-ALABAMA RIVER IMPROVEMENT ASSOCIATION

ACCOMPANIED BY:

- **TOM MCKENZIE, COOSA ACTION GROUP**
- **WILLIAM GRIFFIN, REPRESENTING GOVERNOR WALLACE OF ALABAMA**
- **RALPH O. CLEMENS, JR., EXECUTIVE VICE PRESIDENT, COOSA-ALABAMA IMPROVEMENT ASSOCIATION, INC.**

Senator JOHNSTON. We will now call the Coosa-Alabama group, Mr. Lister Hill Proctor. I understand the Governor has called your legislature back in session.

Mr. GRIFFIN. That is correct, sir. They had to leave earlier. They sent their regrets and compliments, but they are already plane-bound.

Senator JOHNSTON. Their presence is noted and appreciated.

Senator Heflin is on his way back here from Alabama, as a matter of fact, and sends his regrets. He couldn't schedule a flight to get in here to be here in time. He sends his regrets and his regards. And, as I mentioned, he has provided testimony to the committee.

Ms. WAITE. Mr. Chairman?

Senator JOHNSTON. Yes.

Ms. WAITE. As you have stated, Senator, Mr. Proctor could not come. I am Mary George Waite, the vice president of the Coosa-Alabama River Improvement Association Inc., and we are just delighted to be here today. We thank you for letting us come back and say hello and talk for just a little bit.

We are real proud of our delegation. We had about 45 people here this morning. Some of them have had to go get planes, but they are from all sectors of life in Alabama. They are from all levels of local government—municipal, State, and county. It is encouraging, too, to find young legislators from the State here.

They wanted us to tell you that the support is there on a local level down in the State of Alabama. When they voted on it in the House, it passed 105 to 0, so that sounds great.

Senator JOHNSTON. Let me ask you, is Lister Hill Proctor named after Senator Lister Hill? He had to be?

Ms. WAITE. He had to be. He is quite a proud young man, and he would do the Senator proud.

We have the statements here and we are bringing those with us to read into the record. We have 34 of those, and they come from people back home, so lots of people are interested in this particular project.

We also have several people with us that are going to make very brief statements. We know that we are concerned about maximum funding to continue rehabilitation work on the lower Alabama River which started in fiscal year 1985. This project, as we all know, has been plagued by delays that have involved processing environmental requirements.

We are represented here today by a large group and I would like for them to stand so you can see who is here from Alabama. Could you stand?

[A large group standing.]

Ms. WAITE. I don't know how many of us are left, but these belong to us, Senator Johnston.

Senator JOHNSTON. It is a good group, and I understand some had to leave, too. Some had to leave.

Ms. WAITE. Yes; we had quite a group this morning. We do know about Gramm-Rudman in Alabama and we know about problems of balancing the budget. We know about deficit spending, and it may be real premature for us to request construction funds, but we are nonetheless encouraged by what appears to be an increase in business of some of our key industries in the State. Given the facts that no major river construction development has been undertaken in some time, the national economy seems to be continuing its expansion.

The State of Alabama is supportive of our project, because they have identified these State funds; it does not seem unrealistic at this time to say that we may be near to opening serious discussions again regarding completing preconstruction requirements for the project.

So at this time, I would like to call on Mr. Tom McKenzie, who is from Gadsden, AL. He is representing the Coosa Action Group in Gadsden, as well as the Etowah County Chamber of Commerce.

Mr. MCKENZIE. Mr. Chairman, we appreciate the opportunity to appear before your committee this afternoon. The Gadsden Etowah

Chamber of Commerce represents some 800 business and industrial firms. We do encourage the full development of the Coosa River. We realize the potential to northeast Alabama.

ECONOMIC BENEFITS

As Mary George said, we realize the funding for the whole thing is a problem at this time, but we certainly recommend and support the need for funds for maintenance on the lower river and certainly in Mobile Harbor. As you may know, the economy of our region has been hard hit during the past 4 or 5 years. The unemployment rate was close to 14 percent recently in Etowah County, and that is about double what the national average is.

Although our economic conditions seem to be improving somewhat, we have got a long way to go. A completed Coosa-Alabama River Waterway project would give an immeasurable boost to Etowah County and our part of the State, and indeed to the whole State, and be a blessing to the Nation, we believe. Our chamber and our Coosa River Action Council stand ready to assist in any way we can the people in the State and Federal Government in making this waterway development a reality.

We appreciate very much the opportunity of appearing here before you this afternoon and thank you.

Senator JOHNSTON. Thank you.

Ms. WAITE. We have Buddy Griffin, who is representing Governor Wallace from the State of Alabama.

Mr. GRIFFIN. Mr. Chairman, thank you very much.

I represent Governor Wallace today to make known his opinions as far as the various rivers that are reporting to you this afternoon and the fact that he supports them whole heartedly.

Like Senator Denton mentioned just moments ago, he recognizes our rivers certainly as being a major asset for our State. Just about this time a year ago, he recognized that there was one missing link, and he has now provided that, and that is the authorization and the funding of a separate development authority, an agency to work on the development and promotion of the rivers of Alabama. We are No. 1 in the Nation now, with 1,400 miles of navigable waterways, and fortunately, this came about, obviously, through the completion of the Tennessee-Tombigbee Waterway which, in turn, connects all of our five rivers and the 16,000-mile Intracoastal Waterway.

So he is very much aware of, frankly, the progress that we know that we can make by promoting and developing these rivers, and he wants you to know that the State will give its full authorization and backing to this development effort.

Thank you very much.

Ms. WAITE. The final person in our group to speak is going to be our executive vice president of the Coosa River Association, Col. Ralph Clemens, and I want to thank you again for letting us be here today.

Mr. Clemens. Mr. Chairman, I will hold my remarks down to just a few seconds just to say that we have a two-pronged mission. The first is to maintain the navigability of the Alabama River from Montgomery right on down to and including the Mobile Harbor. I think it is important to keep that in mind. We are asking for the maximum Corps capability to meet that end requirement, quite frankly, in our funding request this year.

The second side of our mission is to make the Coosa River navigable from just outside of Montgomery, right on up to Rome, GA. The reality of Gramm-Rudman and life tells us that that may not be in the offing for a near term. What we would like to do is to ask that any and all support toward keeping that project current and on the shelf so that when construction funds do become available, we would be able to come and start breaking ground within 6 months after authorization. That is really essential, and that is why we have such a large group here, and that is our reason for being, quite frankly.

I would like to second Ms. Waite's note of appreciation; your courtesy and consideration is greatly appreciated. Thank you.

Senator Johnston. Thank you, Ms. Waite and gentlemen, for an excellent presentation. We will do the best we can.

Ms. Waite. Thank you.

[The statements follow:]

STATEMENT OF COOSA-ALABAMA RIVER IMPROVEMENT ASSOCIATION, INC.

I am pleased to have this opportunity to tell you what we feel is needed in the Fiscal Year 1987 Energy and Water Development Appropriations for the projects listed below. As the President of our Association I speak for a large and diverse group of citizens who see continued development of the Coosa-Alabama Waterway as an opportunity for growth in our region and all of the nation.

Our membership is reflected in the composition of the delegation we brought with us today. Some use the waterway now, either as shippers or tow operators. Others are businessmen, bankers and a variety of other private individuals who have a stake in future economic development for their firms and their successors to enjoy. Then there is the larger group of elected officials and their constituents typical of the twenty-three municipalities and nineteen counties along the water who are members of this Association. These people were elected - as you were - to lead; to govern now and also plan a better future for the citizens they represent.

Mr. Chairman, we thank you for the support your committee has given us in the past. The complex funding decisions that face the Congress this year have become more challenging than ever, but we are convinced that the appropriations we support are not only essential, but will bring a substantial return on government investment.

Tabulated below are our specific funding requests for Fiscal Year 1987. The projects we support are part of a waterway system that originates in Northwest Georgia and flows diagonally across the State of Alabama to Mobile Harbor. For comparison purposes we included the amounts in the Administration's Budget Request.

Surveys	Budget Request	Our Request
Operations and Maintenance (O&M)		
. Alabama-Coosa River, AL* (Alabama River including Claiborne Lock and Dam, AL)	$ 4,924.000	$ 10,343,000
. Millers Ferry Lock & Dam, AL	3,496,000	4,336,000
. Robert F. Henry Lock & Dam, AL	3,220,000	3,448,000
. Mobile Harbor	7,112,000	9,167,000
. Allatoona Lake, GA	4,561,000	8,233,000
. Carters Lake, GA	2,780,000	4,008,000

*Includes 72 miles from the mouth of the Alabama River through Claiborne Lock and Dam up to Millers Ferry. The Coosa River is not included.

We, like other citizens throughout the country are looking for positive ways to stimulate the economy and increase productivity. Only by doing this will the burden on productive taxpayers be reduced. On the other hand, spending reductions or freezes on the investments most directly linked with our country's future avoids the problem only by ignoring it, not solving it. The solutions to our dilemma lie in decisions based on vision and sound judgement.

The barge industry continues to be gripped by the depression which began some years ago. While the general economy has participated in a recovery, accompanied by low interest rates and stabilized inflation, the substantial drop in oil prices has made that fuel the obvious choice for the short term. The result is lessened demand for coal, this country's most plentiful fuel. At one time our barge lines and docks were geared up for what was anticipated to be a tremendous upsurge in worldwide coal requirements. Although delayed, that demand will be regenerated once the oil cartels again organize themselves and rigidly police production. When industry again reverts to coal, the waterways must be ready. That is why an investment in the future is reasonable and prudent, even in light of today's fiscal requirements.

As I enter my third year in service to the Association, Mr. Chairman, I am more convinced than ever that the founders of this organization developed our mission which, through 96 years has been consistent and productive to state and nation. Our founder, William Patrick Lay, who also founded the Alabama Power

Company, felt that our internal waterways were a source of wealth to the nation but had to be developed and maintained in order to reach their potential. Stability in the Association's leadership has been a distinct advantage since the essence of river systems investment must not be a short term scheme. To examine the benefits of developing our waterways in terms of 5 or so years is, I am afraid, a serious mistake; a mistake which many "nay-sayers" and doomsday artists are wont to use in their "I-told-you-so" scenarios. The Waterways Journal stated recently that the Gulf Intracoastal Waterway was planned to handle five million tons of cargo each year. Before the towing industry experienced depression, the Waterway was handling 100 million tons each year! The point, however, is that the tonnage figures peaked after 25 years of maintenance and development. Again, short term expectations can be counterproductive.

The threat of escalating user fees and other cost-sharing devices still looms large to river users. A recently imposed fuel tax of 10¢ per gallon and the proposed penny a gallon per year increase in the future will do severe damage to an already overstressed barge industry. However, we feel that in spite of the aspect of taxing operators, a solid piece of legislation which describes future requirements for waterway development is a positive development. Additionally, if the Congress maintains a status quo user fee stance into the late 1990's, the industry, as Senator Danforth of Missouri stated, will at least be able to plan with a reasonable assurance of stability.

Because of the many uncertainties surrounding the budget and the state of the towing industry, we are not going to request construction funds for the Coosa River Navigation Project this year. Although this project has been authorized since 1945 and the first portion to Montgomery finished in 1972, the reality of the nation's current fiscal situation tends to make us press for increased reliability of the Alabama River channel and improvements in the Port of Mobile. We continue to work with the State of Alabama's Joint Interim Legislative Committee on the Coosa River Navigation Project (chaired by Senator Bill Drinkard and Representative Bobby Junkins) which sponsored legislation commiting the state to their share of non-federal appropriations. The state is very supportive of the project but shares our recognition of limited funds availability. We shall vigorously maintain our position of updating survey work and administrative requirements to keep the "on-the-shelf" capability of the project as current as possible.

Now I would like to address specific appropriations requests. Last year the point was made that the Alabama-Coosa River Project did not include, nor even approach the vicinity of, the Coosa. The project actually involves the 72 miles from the mouth of the Alabama River through Claiborne Lock and Dam up to Millers Ferry. As you travel upstream from Mobile, you must traverse the Claiborne, Millers Ferry and Robert F. Henry locks. There still needs to be substantial rehabilitation work on the Alabama -- particularly the lower portion. Reliability of the channel is still below the standard which was envisioned in the Fiscal Year 1985 appropriations when $9.653 million was earmarked to modify the training dike system and change the dredging profile. Some of the environmental clearances and preliminary administrative coordination still need to be completed. Each year the total rehabilitation effort is delayed is a year lost to those interests whose efforts to use river transportation are hampered because of channel reliability problems. Although our focus is on the Alabama-Coosa River Project, several programs, for example; Allatoona and Carters Lakes, Georgia, Mobile Harbor, and the three locks and dams aforementioned are in need of work over and above that which can be completed with the Administration's budget request.

Mr. Chairman, the support of yourself and your committee in the past has been superb and deeply appreciated. I know that each of you on the committee is deeply concerned with future developments as they relate to our waterways. A substantial fuel tax has been collected since 1980 and yet our government has not begun a new major waterway project since that time. Gramm-Rudman alone will not bring our great country back to a position of world economic preeminence. Are we to believe that by 1991 all our woes will be cured as a result of continuing budget cuts? No, Mr. Chairman, a balanced budget is only one thread of that fabric which must be tightly woven to hold our country together. Production is the key to a growing, vital economy. And to support that production we will always need competitive and plentiful intermodal transportation capability -- capability which is low-cost and responsive. It took 82 years after our Association was founded before the channel was opened to Montgomery from Mobile. William Patrick Lay, Association founder, wrote to a member of Congress in 1902 proposing locks on the Coosa River. Historical perspectives on almost every major public work in this country have been positive and Mr. Lay's statement "...hoping that the importance of the Coosa River may be properly appreciated..." is an admonition which should not go unheeded. Bold and visionary strokes are needed to bring America back to the forefront of world commerce -- not the least of these would develop an uncompromising commitment to our waterways.

In conclusion I wish to say that our requests for the projects cited exceed the amounts in the President's Budget. You and your colleagues will note that our requests more closely approximate the capability of the Corps of Engineers for additional work needed to keep these fine activities in top working condition. The combination of timely periodic maintenance of facilities and the much-needed training dike repair and dredging programs along the Alabama River are essential to keep what we have in good working order. Our users need to have a dependable channel if we are to utilize the river as much as its potential will allow.

We appreciate the opportunity to appear before this distinguished Subcommittee. We know that our requests will be received with balance and consideration. We will continue to speak out on behalf of the entire waterway from Mobile to Rome, Georgia; first to maintain the Alabama River and Mobile Harbor in a productive configuration and, second, to lay the groundwork for the time when sound judgement and economic conditions will signal the beginning of building on the Coosa River.

Witness List: Coosa-Alabama River
Improvement Association, Inc.

Mrs. Mary George Waite	- Vice President, Coosa-Alabama River Improvement Association, Inc., Centre, Alabama
Mr. William Griffin	- Representing Alabama Governor Wallace - Director, Alabama Waterways Development Agency, Mobile, Alabama
Mr. J. T. McKenzie	- President, Coosa River Action Council, Gadsden, Alabama
Colonel Ralph O. Clemens, Jr.	- Executive Vice President, Coosa-Alabama River Improvement Association, Inc., Montgomery, Alabama

COOSA-ALABAMA RIVER IMPROVEMENT ASSOCIATION'S DELEGATION
APPEARING BEFORE THE SENATE SUBCOMMITTEE ON APPROPRIATIONS
FOR ENERGY AND WATER DEVELOPMENT HEARINGS 2:00 P. M., APRIL 14, 1986.

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1. ~~Walter B. Stevenson, Jr., AL Dept. of Economic and Community Affairs, Montgomery, AL~~
2. Mrs. Mary George Waite, Vice Pres. for AL, CARI Association, Centre, AL
3. ~~Burgett H. Mooney, Jr., Vice Pres. for GA, CARI Association, Rome, Georgia~~
4. Ralph O. Clemens, Jr., Exec. Vice Pres., CARI Association, Montgomery, AL
5. Ada W. Paravicini, Adm. Assistant, CARI Association, Montgomery, AL
6. Mary B. Funderburk, Retired Businesswoman, Montgomery, AL
7. State Representative Bobby Junkins, Gadsden, AL
8. State Representative Richard J. Lindsey, Centre, AL
9. Susie Junkins, Businesswoman, Gadsden, AL
10. Johna Lindsey, Businesswoman, Centre, AL
11. Mrs. Geneva James, Retired Businesswoman, Centre, AL
12. ~~Dr. Myron Wilson, Optometrist, Centre, AL~~
13. ~~Susan Wilson, Businesswoman, Centre, AL~~
14. Kenneth I. Chesnut, City Councilman of Camden, Alabama
15. ~~Susan Chesnut, Businesswoman, Camden, AL~~
16. ~~Elizabeth Chesnut, Student, Camden, AL~~
17. Grace Chesnut, Student, Camden, AL
18. Robert A. "Bobby" Burk, Scott Paper Company, Saraland, AL
19. ~~Paul Manning, St. Clair County Commissioner, Ragland, AL~~
20. W. J. "Buddy" Griffin, Director, AL Waterways Dev. Agency, Mobile, AL
21. Lambert Mims, Governor's Ambassador for Waterways, Mobile, AL
22. Robert C. "Bob" Douglass, Jr., E.V.P., Gadsden-Etowah Chamber of Comm., Gadsden, AL
23. J. T. "Tom" McKenzie, President, Coosa River Action Council, Gadsden, AL
24. Ray Hutchison, Asst. to Mayor, City of Gadsden, Gadsden, AL
25. Wendell Bryant, Etowah County Commissioner, Gadsden, AL
26. Roger C. Ellison ~~W. A. [illegible],~~ Etowah County Engineer ~~Commissioner~~, Gadsden, AL
27. Joel W. Barfoot, Chairman, Montgomery County Commission, Montgomery, AL
28. J. H. "Buddy" Trotter, Jr., Montgomery County Engineer, Montgomery, AL
29. Otha Lee Biggs, Judge of Probate, Monroe County, Monroeville, AL
30. Sue L. Glidewell, Mayor, Rainbow City, Rainbow City, AL
31. Vennetta Gray, Gadsden-Etowah Chamber of Commerce, Gadsden, AL
32. Juanita Moman, Owner-Moman Optical, Gadsden, AL
33. W. L. "Bob" Moman, AL Gas Corp., Gadsden, AL

34. J. T. "Jamie" Jordan, Businessman, Centre, AL

35. Kelly Jordan, Housewife, Centre, AL

36. E. G. "Buddy" Browning, Jr., AL State Docks Department, Mobile, AL

37. Marrion B. Rambeau, Dir., Trade & Transp. Div., Mobile Area C of C., Mobile, AL

38. Kim Clemens, Auburn University student, Montgomery, AL

39. Lee Moorer, Montgomery, Al.

STATEMENT OF GOV. GEORGE C. WALLACE OF ALABAMA

It is a privilege and a pleasure to address this Subcommittee, along with the members of the Coosa-Alabama River Improvement Association, in support of navigation on the Alabama-Coosa River Waterway. Specifically, we endorse the request of the Association and its supporters for continued funding during FY 87 of navigation on the Alabama River. We wish to again express our strong support for the full-time operation and the necessary maintenance of the Alabama River portion of the waterway.

The Alabama River provides a vital link into the heartland of Alabama, connecting the Montgomery area to the Gulf Port of Mobile, and to other waterways of our National Inland Waterway System. It provides a dependable, safe and cost-effective method of transportation of materials and products, both industrial and agricultural, as well as providing jobs and opportunities for many of Alabama's citizens.

I support the Association's funding request for FY 87 for the various projects along the Alabama-Coosa River Waterway. I support the Association's request for funding the Alabama-Coosa River Project in the amount of $10,343,000. This funding is over and above what is needed for regular operation and maintenance expenditures. These extra funds are needed to continue rehabilitation work to improve the reliability of the 9-foot channel during dry seasons in the lower reaches of the Alabama River. Preliminary work was begun during FY 85 but was delayed. With the Association's recommended level of funding, the Corps of Engineers should be able to complete this work on schedule during FY 87. I also support the Association's request for funding Millers Ferry Lock and Dam ($4,336,000) and Robert F. Henry Lock and Dam ($3,448,000).

Also, at the appropriate time, we request your support for the resumption of design and engineering work on the Coosa River Navigation Project which was deferred in 1983. We still believe this project to be of vital importance to Alabama and the entire region. When completed it will no doubt benefit the regional development potential of the area. During 1984 and 1985, action at the State level removed several obstacles to this project. I commend the members of the Alabama Legislature for passage of legislation in 1984 which amended several technical aspects of the Coosa Valley Development Authority, the nonfederal sponsor of the Coosa River Navigation Project. Last year legislation was passed by the Alabama Legislature providing adequate State funding for the project as recommended by the Corps of Engineers in their earlier reports. In addition, I authorized creation of the Alabama Waterways Development Agency in 1985 to promote the development and utilization of all Alabama waterways. My representatives have also been involved in the formation of the Gulf States Intracoastal Waterway Coordinating Committee, along with representatives of the states of Florida, Louisiana, Mississippi, and Texas, to provide a forum discussion of the issues and opportunities related to the utilization of the Gulf Intracoastal Waterway.

Also, I support adequate funding for the operation and maintenance of Mobile Harbor. Mobile Harbor is vital to the ongoing operations of the Port of Mobile and the Alabama-Coosa River Waterway. Over the past eight years the State of Alabama has invested over $250 million in expanded and improved port facilities.

In closing, I would like to pledge my support and again express the intentions of the State of Alabama to adequately meet its responsibilities and obligations for the Alabama-Coosa River Waterway as defined by Congress. I would also like to express thanks to you and to all the members of the Subcommittee, whose support and assistance over the years has insured that adequate funding is provided for the operation and maintenance of the navigation on the Alabama River, and for the progress achieved thus far on the proposed Coosa River Navigation Project.

STATEMENT OF ALABAMA DEPARTMENT OF ECONOMIC AND COMMUNITY AFFAIRS

I want to thank you for the opportunity to appear before this Subcommittee along with my fellow Alabamians in support of continued navigation of the Alabama-Coosa River Waterway. Specifically, we endorse the request of the Coosa-Alabama River Improvement Association and its supporters for continued funding of the full-time operation and the necessary maintenance of the Alabama-Coosa River Waterway and of Mobile Harbor during FY 1987.

The existing navigation project on the Alabama River is proving to be, even in these continuing economically-depressed times in Alabama, a cost-effective method of commercial transportation. Official tonnage for 1984 was 2,977,000 tons with a 1985 estimate of over 3 million tons. It has provided for numerous new opportunities and jobs in central and south Alabama. Several new industries have located in the area based on the availability of waterway transportation. In several instances, the waterway has provided for the opportunity to develop resources which are vital to the future of the area, but could not have been developed without the navigation project. The existing project, in addition to commercial navigation, provides for hydroelectric generation, fish and wildlife enhancement and recreational opportunities, all in harmony with sound environmental policy.

We support the Association's request for a FY 87 funding level of $10,343,000 for the Alabama-Coosa River Project. This funding level is $5,419,000 above the President's request, and would provide adequate funding for regular Operation and Maintenance expenditures, as well as extra funds needed for completion of rehabilitation work to improve the reliability of the 9-foot channel during dry seasons. Even though this work was begun in FY 85, delays have prevented completion. We believe the Association's requested level of funding would enable the Corps to finish the work on schedule in FY 87. We also support the Association's request for funding Millers Ferry Lock and Dam ($4,336,000), and Robert F. Henry Lock and Dam ($3,448,000). At the appropriate time, we request your support for the resumption of design and engineering work on the Coosa River Navigation Project. This project is vitally important to Alabama and to the entire region. When it is completed, this project will benefit the regional development potential of the area.

Also, we support adequate funding for the operation and maintenance of Mobile Harbor. Mobile Harbor is vital to the ongoing operations of the Port of Mobile and the Alabama-Coosa River Waterway. Over the past eight years the State of Alabama has invested over $250 million in expanded and improved Port facilities. The Alabama State Docks' facilities now offer the most advanced coal-handling technology available in this country. Similar improvements have been made for grain handling and bulk materials. These investments demonstrate the State of Alabama's long-term commitment to the Port of Mobile and the Alabama-Coosa River Waterway.

In closing, I would pledge my support and that of the Alabama Department of Economic and Community Affairs in assisting the State of Alabama to meet its responsibilities and obligations for the Alabama-Coosa River project as defined by Congress. I appreciate the support and assistance which you and all the members of the Subcommittee have given us over the years, and for insuring adequate funding is provided for the operation and maintenance of the existing Alabama-Coosa River Project.

STATEMENT OF ROBERT M. CRESWELL, CAMDEN, AL

As the first Resource Manager for Alabama River Lakes and a resident of Camden, Alabama for 17 years, I have witnessed the development of the Government facilities, the industrial growth and residential construction along the Alabama River. Although I retired after the completion of the park facilities on R. E. "Bob" Woodruff Lake, I retain a firm interest in the Alabama River development as well as the ultimate plans for the Coosa River and the maintenance of the Carters and Allatoona Projects. I support the Coosa-Alabama River Improvement Association's requests for FY87.

It is tantamount that the training dikes below Claiborne Dam be improved and that the dredging profile be modified to accomodate the waterway traffic generated by the industrial growth evidenced by such concerns as Scott Paper Co., International Paper Co., Union-Camp, Alabama River Pulp, MacMillan-Bloedel, Inc., Hammermill as well as Radcliff Materials and Agricultural Services Corp. Recently several smaller gravel producers have been started near Selma. These investors have made commitments of very large sums in their plants and holdings. MacMillan-Bloedel recently completed a 248 million dollar expansion of which 42 million was spent for air and water pollution alone. Hammermill is making a comparable addition to its plant. Maintenance of the channel from Mobile to Montgomery is an obligation made to the users and to the public before impoundment. The continued operation of the waterway must be assured to these and other users.

The Alabama River Lakes project has seen the initial phase of its recreational facilities completed with the opening of Gunter Hill Park on R. E. "Bob" Woodruff Lake. This contains 147 campsites with water and electrical services for campers and the Government realizes a substantial income from fees for the same. Further, 4 parks on Claiborne and Dannelly Lakes are being rehabilitated to include similar services to produce revenues. Needless to say, the powerhouses at Millers Ferry, Robert F. Henry, Carters and Allatoona Dams produce sizable returns for the U. S. Government. These facilities, as well as the navigable waterway should be kept in operation.

I trust that your committee will act favorably on the appropriation requests of the Coosa-Alabama River Improvement Association, Inc. .

STATEMENT OF ALABAMA STATE DOCKS DEPARTMENT

On behalf of the Alabama State Docks Department and the Port of Mobile we appreciate the opportunity to appear before this Committee today and offer this statement in regard to Fiscal 1987 appropriation measures relative the Mobile Harbor.

The Alabama State Docks Department is the terminal facilities operator for the Port of Mobile and operates and maintains port handling facilities which include a Bulk Material Handling Plant, Public Grain Elevator, Export Coal Handling Terminal, general cargo facilities including wharves, piers and warehouses as well as a Terminal Railway. The Port complex entails approximately 1445 acres and is valued in excess of $500 million.

The primary cargoes handled through the Port of Mobile include inbound ores such as bauxite, manganese, magnesite, ilmenite, iron ore and steam coal. Grain exports include soybeans, corn, wheat, oats, middlings, and screenings. Coal for export constitutes a major cargo as well as outbound crude oil which moves to the Port from recovery operations in Florida and North Mobile County.

During the past ten years the Alabama State Docks Department and the State of Alabama have expended in excess of $250 million on renovations, expansions and improvements to the Port handling capabilities at the Mobile facilities.

These funds have been expended to meet the required present cargo handling capability of tonnage generated by our in-place inland river system, the five trunk line railroads serving Mobile, and forty-five truck lines which initiate and terminate cargo in Mobile.

A complete Port renovation program impacting each of the four terminal operating facilities at Mobile has been completed and the Port's handling capability in all areas has been increased and that increased capability provided an emphasis for escalating tonnage at Alabama State Docks' facilities last year. Export coal handled through the McDuffie facilities increased by 1.5 million tons and export grain moving through the Public Grain Elevator increased by almost a million tons.

Programs which we have previously discussed with this Committee with respect to the acquisition of additional spoil disposal sites and subsequent diking improvements thereon have been completed while others are under contract at this time.

As Director of the Alabama State Docks Department I am supporting the Corps of Engineers Budgeted Allocation for Fiscal Year 1987 in the amount of $7.1 million for Operation and Maintenance functions in the Mobile Harbor for Fiscal '87 and respectfully request that this Committee approve that Budgeted Allocation.

The Alabama State Docks Department and the Governor of the State of Alabama jointly support the deepening of Mobile Harbor to a depth of fifty-five feet to accommodate the very large bulk carriers under the MOBILE HARBOR DEEPENING AND IMPROVEMENT PROGRAM.

The Alabama State Docks Department, the State of Alabama, and the U. S. Army Corps of Engineers have jointly planned an environmentally sound and economically feasible phased approach to the new construction project.

The Project authorized in Public Law 99-88 permits a phased development of the Project Deepening and the Alabama State Docks, State of Alabama and the Corps of Engineers are proposing to commence the initial phase of work which will include the construction of a new turning basin and additional anchorages on the Mobile River at the confluence of Mobile River and Mobile Bay just east of the McDuffie Island Export Coal Terminal.

This initial phase of work will be extremely timely to the project and will offer immediate benefits for the turning and handling of bulk cargo vessels at the south end of the Harbor facilities.

We would respectfully request this Committee to approve the Budgeted Allocation for new work of $15 million set out in the Fiscal 1987 Budget for Mobile Harbor.

We again appreciate the opportunity to appear before this Committee and voice our support in concert with that of Governor George C. Wallace for the requested Budgeted Allocations as well as this Committee's continued cooperation with the U. S. Army Corps of Engineers with respect to the Mobile Harbor Projects.

We respectfully request that this statement be incorporated in and made a part of the permanent record of these Hearings.

STATEMENT OF WARRIOR & GULF NAVIGATION CO., CHICKASAW, AL

I, Nicholas J. Barchie, Jr., am President of Warrior & Gulf Navigation Company and our company is a member of the Coosa-Alabama River Improvement Association. We are in support of the Association's request for FY87 and are testifying as part of a regional effort to improve and extend the waterway.

Warrior & Gulf is a barge line located in Chickasaw, Alabama and owns 27 towboats and 310 barges making us one of the larger water carriers operating on the Alabama waterways. With our current equipment ownership our annual capacity is approximately 10,000,000 tons. Additionally, we operate a coal handling and iron ore facility and one barge drydock at Port Birmingham; one barge drydock and one boat drydock at our Chickasaw facilities; and, a wholly owned subsidiary of Warrior & Gulf, Mobile River Terminal, is another bulk terminal handling various cargoes from and to ocean-going vessels in the Port of Mobile. Our total employment is 350 people.

Due to the recessionary times and the overall depressed level of business being experienced within the Inland Waterway Industry, the tonnage handled on the Alabama River in particular has been down substantially in comparison to prior years. WGN's primary business on the Alabama River has been the movement of woodpulp to Mobile for export to Europe and the Far East. Moreover, we have made various rate quotations to handle other business located along the Alabama River and are optimistic that our tonnage participation on this river will increase upon the economy improving.

Warrior & Gulf Navigation Company has been using the Alabama River for twelve or so years. The major limitation encountered on the Alabama River is severe shoaling during the summer months wherein the draft is restricted to no more than 6 feet, thus requiring the loaded draft of our barges being reduced to around 5.5 feet and requiring a very shallow draft vessel to provide the towing of our barges as our own vessel's draw 8.5 feet and cannot navigate this river during these periods of extreme low water. Therefore, it is important that the Corps of Engineers be given adequate funding in FY87 to continue the work on training dikes and dredging for improved reliability of the channel, so the Alabama River can reach its potential as a major inland waterway.

Furthermore, there is continued pressure before Congress for increased user fees, segment fees, and cost sharing, which we strongly oppose as the waterway users are currently paying a special tax on their diesel fuel. The latest raise in October, 1985 increases the burden on the users in an industry which has been fighting for its very own survival for the past several years. Additionally, the waterway users help the trade balance through lower freight rates giving the U. S. producers a better export market. The waterways provide a competitive alternative for shippers. The waterways provide efficient transportation productivity that lowers inflation and contributes to reducing the national deficit. In the meantime, large subsidies and tax advantages continue to be given to the railroads without any cost sharing requirements.

We respectfully request your continued support and assistance as your subcommittee considers appropriation of funds for the Alabama River's operation and maintenance.

STATEMENT OF DRAVO BASIC MATERIALS CO., INC., MOBILE, AL

We respectfully request your consideration and approval of the following projects on the Coosa-Alabama River System for fiscal year 1987:

1) Resume Coosa River Navigation Project.
2) Continued rehabilitation of training dykes and modification of dredging profile for the Alabama River Channel below Claiborne Lock & Dam.
3) Operation and maintenance - Claiborne Lock & Dam.
4) Operation and maintenance - Millers Ferry Lock & Dam.
5) Operation and maintenance - Robert F. Henry Lock & Dam.
6) Operation and maintenance - reservoirs and hydro-electric stations.
7) Operation, maintenance, improvements and deepening of Mobile Harbor.

We support the testimony of the Coosa-Alabama River Improvement Association and we join the efforts of its membership to maintain and extend the waterway to make the benefits of low cost, energy efficient water transportation available to a broader economic base.

Dravo Basic Materials Company, Inc. is one of the leading producers of construction raw materials and aggregates on the Gulf Coast. We rely extensively on the waterways of Alabama, Florida, Louisiana, Mississippi and Texas for production and delivery of our products. In 1985 we produced and moved via Alabama waterways over 1,400,000 tons of sand and gravel. We also transported over 125,000 tons of limestone as well as significant quantities of other products. Our projections for 1986 are:

Sand and Gravel	1,500,000 tons
Other	250,000 tons

Dravo Basic Materials Company, Inc. operates a fleet of 23 boats, 85 barges and 7 dredges. We maintain a large terminal and handling facility on McDuffie Island in Mobile, Alabama in addition to numerous support facilities throughout South Alabama and the Gulf Coast.

The maintenance of authorized project dimensions is essential for the efficient, orderly production and delivery of materials throughout the waterway system. Drought conditions in 1985 resulted in low flows on the Alabama River. Fortunately, through the efforts of the Army Corps of Engineers and their maintenance dredging program, the cooperation of users and operators on the Alabama River and a lot of luck, navigation was maintained throughout the year even though draft restrictions did limit tow capacities. This condition emphasizes the need for the Corps to have the capability of overcoming extreme conditions in meeting its assigned task of operating and maintaining an efficient, orderly waterway system. In order to provide this capability, it is imperative not only that the Army Corps of Engineers be provided with the appropriations as per their budget requests, but also with the additional funds required to insure the Corps has the flexibility and capability to fully realize the potential of the Coosa-Alabama River System and the Port of Mobile.

We sincerely appreciate the Committee's faith in the future of the great waterway systems of the State of Alabama and welcome its continued support of these vital projects.

STATEMENT OF ALABAMA TOMBIGBEE REGIONAL COMMISSION

I am sorry that I am unable to appear in person today before this distinguished subcommittee. However, I appreciate the opportunity to submit a statement on behalf of the Coosa-Alabama Improvement Association, Incorporated.

The Alabama-Tombigbee Regional Commission is a multi-county planning and development commission in southwestern Alabama. Its member governments include 10 counties and 47 municipalities, and a population of 225,600 residents of which 51% are Black. Our communities are small, with all but one under 7,000. Our per capita income in 1982 ranged from a low of $5,490 to a high of $7,800, considerably below the state average of $8,647. Our median family income in 1980 ranged from $9,983 to $15,623.

The major reason for construction of the Coosa River Navigation Project is to afford an opportunity for improvement of the shipment of goods, both raw materials and finished products by water. In turn, the waterways lower truck and rail rates by providing a competitive alternative for shippers. However, due to the lack of construction funds needed, this project was suspended in March, 1983. The appropriation of these funds by Congress is all that is needed to resume the design and construction work which is so badly needed on the Coosa Project.

Our state and nation are suffering from unprecedented unemployment rates. The Alabama-Tombigbee Regional Commission's region alone had a 1985 unemployment rate of 12.1%. Federal investments that create jobs are needed as much as Federal job-training programs for jobs that may not exist. This would help to alleviate the dire need for employment opportunities in our region and state. Any plans for construction should include rehabilitation of the training dikes and modification of the dredging profile for the Alabama River channel below Claiborne and the continued maintenance and operation of the Alabama River waterway from Mobile to Montgomery. It is also of paramount importance that the Mobile Harbor be maintained and improved.

Support for these projects by this Subcommittee is desperately needed. We at the Alabama-Tombigbee Regional Commission are part of a collective effort to maintain and extend the waterway. The potential this project offers our region is tremendous. We urge Congress to realize the need for and support the Coosa-Alabama River Improvement Association's request for Fiscal Year 1987 funding.

STATEMENT OF SCOTT PAPER CO., SARALAND, AL

Scott Paper Company appreciates the opportunity to submit a statement on our use of the Alabama River system. Water transportation of raw materials is of great importance to our company and will be even more so in the future. Decisions of this Committee will therefore be very important to our company's future operation, profitability, and employee work force. Failure to provide for dredging and other projects on the Alabama River system could increase our company's operating costs to the detriment of the economy of Alabama and its citizens.

Scott Paper Company in Alabama manufactures lumber, pulp and a wide variety of paper products which are shipped to markets throughout the United States. The payroll for our 4,000 employees in the Mobile, Alabama, area is $110 million annually. Scott's operation in the Mobile area contributes over $1 million per day to the economy through payroll, taxes, and purchase of pulpwood and supplies.

Water transportation is used in Scott's Alabama operation to move raw material - pulpwood and logs - to manufacturing plants.

We have used water transportation of wood raw materials on the Alabama River system for a number of years and are currently upgrading and enlarging our water transportation capabilities. Our $70 million dollar investment in 1982-83 has resulted in lower operating costs which, in turn, has improved the competitiveness of our Alabama operations. We are currently barging approximately 800,000 tons of wood on the Alabama River system to our Mobile, Alabama, manufacturing plants. The $70 million investment included modernization of our Camden and riverbank woodyards and the Mobile woodyard and firststage processing equipment. We now operate ten towboats and sixty-four barges. Forty percent of our raw material is being delivered on the Alabama River system. Since last year we have completed a new bargeyard at Dixie Landing (Mile 27) and modernized our existing bargeyard at Canton Bend (Mile 149). We have completed construction of a 2800 horsepower towboat.

With this additional $3.2 million investment in new water transportation facilities, it is obvious that a well-maintained Alabama River system is critical to our company's future. Failure of the U. S. Army Corps of Engineers to dredge and carry out other projects on the Alabama River system could result in higher transportation costs and negative economic pressures on the company, the economy of Alabama, and the 4,000 Scott employees.

We urge the Committee to provide adequate funding for the Alabama River system and Mobile, Alabama, harbor.

RESOLUTION OF ROME (GA) AREA CHAMBER OF COMMERCE

WHEREAS, those counties lying within the basin of the Coosa-Alabama rivers are experiencing economic growth due to the current development program now underway on the rivers and feel this will accelerate even faster when the Coosa-Alabama waterway is fully navigable from Mobile, Alabama to Rome, Georgia; and,

WHEREAS, extensive commitments to private investment on navigable waterways have been made on the assumption that federal maintenance and operation of the waterways would be continued, and studies of completed waterways such as the Arkansas, and also of the planned Coosa Project, show that the returns fully justify such investment; and,

WHEREAS, waterways provide a competitive alternative for shippers, (rail rates on grain from the mid-West are already lower since opening the Tennessee-Tombigbee); lowered freight rates are in the national interest as manufacturers and farmers compete to improve our balance of payments;

WHEREAS, waterways provide efficient transportation productivity that lowers inflation and reduces national deficits; and,

WHEREAS, a public policy decision to invest in an underdeveloped region like the Coosa Valley would strengthen the nation as a whole; and,

WHEREAS, dynamic economic growth, increased hydropower and barge transportation facilities, a more productive way of life, as well as increased recreational enjoyment, are but a few of the numerous benefits that will accrue when this great system is developed;

NOW, THEREFORE BE IT RESOLVED, that the Rome Area Chamber of Commerce approves testimony by the Coosa-Alabama River Improvement Association for support of appropriations on the following projects:

(1) Resumption of design and engineering work on the Coosa Project which was suspended in 1983;
(2) Continued rehabilitation of the training dikes and modification of the dredging profile for the Alabama River channel below Claiborne;
(3) Continued federal maintenance and operation of the Alabama River waterway from Mobile to Montgomery;
(4) Continued operation and maintenance of the upstream reservoirs and hydropower plants at Allatoona Lake and Carters Lake, in Georgia;
(5) Maintenance and improvement of Mobile Harbor;

NOW, THEREFORE BE IT FURTHER RESOLVED, that we strongly urge appropriations representing the capability of the Corps of Engineers for Fiscal Year 1987.

Approved and adopted in regular session of the Board of Directors, this 27th day of March, 1986.

STATEMENT OF JAMIE ETHEREDGE, DIRECTOR, ALABAMA DEVELOPMENT OFFICE

I am pleased to support the testimony of the Coosa-Alabama River Improvement Association in requesting appropriations for fiscal year 1987.

This Nation's waterways are essential to realizing an efficient and progressive increase in the national economy. The continued maintenance and improvement of our river systems requires a vision of tomorrow's growth. To discontinue or impair this investment in our future would restrict future growth of manufacturing, mining, and agricultural industries, particularly those located in the Coosa and Alabama River basin.

Our State is well served by rail and truck transportation networks. The only mode remaining to be fully developed is Alabama's waterways. With continued maintenance of the Alabama River's three locks and dams and upgrade of Mobile Harbor, we can bank on providing competitive transportation from Montgomery to Mobile. Additionally, the Coosa River navigation project, although on hold, should maintain the potential for use to Gadsden and Rome, GA. With that in mind, the project should be actively supported as a future public work.

Your consideration and support in this matter will be greatly appreciated.

STATEMENT OF MOBILE COUNTY (AL) COMMISSION

We strongly approve efforts of the Coosa-Alabama River Improvement Association, Inc., to secure necessary funding for fiscal 1987 to continue to maintain and extend our river system.

Funding is essential to continue Federal M&O of the Alabama River Waterway from Mobile to Montgomery and to maintain and improve Mobile Harbor.

If we are to effectively compete with the other nations of the free world we must continue to maintain, develop, and expand our waterway system. The waterways of Alabama offer an excellent opportunity for this development in the years ahead. We must not allow this excellent system to stagnate for lack of funding.

We appreciate your efforts in past years and your continued assistance and support will be greatly appreciated.

STATEMENT OF MOBILE AREA CHAMBER OF COMMERCE, ALABAMA

On behalf of the 3,500 members of the Mobile Area Chamber of Commerce, I would like to take this opportunity to express our support for continued improvement to the Coosa-Alabama River system.

This river system plays a vital role in the shipment of international commerce (export/import) through the Port of Mobile and, in turn, assist in our international balance of payments with other nations.

We further respectfully request that the fiscal year 1987 budget includes sufficient funds to meet the Corps of Engineers capability for the overall operation and maintenance to this project.

STATEMENT OF SHELDON L. MORGAN, SENIOR VICE PRESIDENT, FIRST ALABAMA BANK, MOBILE, AL

This statement is rendered in behalf of the Coosa-Alabama River project on which design and engineering work was suspended in 1983. The resumption of that work is important for the continuation of the project toward the ultimate completion of the river basin improvements.

We also would like to request that the committee approve the necessary funds for operation and maintenance of the waterway portion that has already been improved between Mobile and Montgomery. This is vital to investments, both public and private, which have been made on the system.

Thank you for your consideration.

STATEMENT OF JAMES A. PIERCE, DIRECTOR OF TRANSPORTATION, MISSISSIPPI CHEMICAL CORP., YAZOO CITY, MS

Mississippi Chemical Corp. is a producer and shipper of chemical fertilizers. The company is a totally farmer-owned cooperative which supplies the fertilizer needs of its approximately 20,000 stockholders.

Mississippi Chemical strongly supports the Coosa-Alabama Improvement Association and wishes to join with them in a collective effort with other users to request continued funding for maintenance and improvement of the Coosa-Alabama Rivers.

A storage-distribution facility is maintained by Mississippi Chemical at Montgomery, AL, to more efficiently serve the needs of the farmers in that area. Barge transportation is utilized for shipment of fertilizers from Pascagoula to Montgomery because of the substantial freight savings realized. Barge freight to Montgomery is approximately one-half that of rail.

Available barge-loading draft varies during the year, with costs naturally being higher during low-water periods when barges must be light-loaded. Loaded tonnage varies greatly according to available draft, i.e., 6 feet equals 900 tons; 7 feet equals 1,100 tons; 8 feet equals 1,300 tons; and 9 feet equals 1,500 tons. A year-round 9-foot channel would aid considerably in cost containment, as per-ton transportation costs escalate dramatically with limited draft.

Therefore, continued maintenance by the Corps of Engineers to provide full authorized depth is of considerable importance to Mississippi Chemical in its efforts to provide economical transportation in the delivery of fertilizers to the Montgomery facility. With the continued depressed state of the agricultural community, any increased costs are extremely detrimental.

Your support and continuing efforts in this regard are earnestly solicited and deeply appreciated.

STATEMENT OF TIM PARKER, JR., PARKER TOWING CO., INC., TUSCALOOSA, AL

My name is Tim Parker, Jr., and I am executive vice president of Parker Towing Co., Inc. I wholeheartedly endorse and support the testimony of Mr. Ralph Clemens, executive vice president of the Coosa-Alabama Improvement Association, and his request to you for adequate operational and maintenance funding for the Coosa-Alabama River system.

Parker Towing Co. operates a fleet of 115 hopper barges, 13 towboats, and 4 tank barges. We have been providing barge transportation services to Alabama shippers for 50 years.

The Coosa-Alabama is important to the economic well-being of Alabama. A wide variety of items are shipped by barge on the Coosa-Alabama, including not only agricultural commodities, but also iron and steel articles, petroleum and chemical products, paper and forest products, and sand and gravel, just to name a few. This diversification clearly indicates the broad economic impact that this waterway has on the health of business and commerce in Alabama.

There is a continuing need to improve the reliability and efficiency of the river channel. As a member of the Coosa-Alabama River Improvement Association, I request that you continue to adequately fund the operational and maintenance requirements of this river.

I respectfully oppose any increases in user fees, segment fees, or cost sharing. Increases in freight rates from any cause, whether it be from more user fees, segment fees, etc., lessens the competitiveness of barge transportation and thus the benefits that it provides for many industries. Any efforts that can be made to keep freight rates as low as possible will be rewarded with increased trade and industrial growth in our region.

STATEMENT OF SOUTHEAST ALABAMA ECONOMIC DEVELOPMENT AGENCY

The Southeast Alabama Economic Development Agency supports the Coosa-Alabama River Improvement Association, Inc., in their request for fiscal year 1987 and as a development agency we are in support of maintaining and extending this waterway. Of particular interest to my agency is the continuation of Federal maintenance and operation of the Alabama River Waterway from Mobile to Montgomery and the increase in money allocated to maintain and improve Mobile Harbor.

Due to the extensive commitments made to private firms by industrial developers in the State of Alabama, it would be a drastic mistake not to continue the Federal maintenance and operation of the waterways.

Thank you for your consideration.

STATEMENT OF MONROE COUNTY (AL) COMMISSION

The Monroe County Commission, Monroe County, AL, respectfully submits to you its continued support for the development and maintenance of the Coosa-Alabama River system.

We support the association's request for fiscal year 1987 funding as the total economic benefits to the southeastern region of the United States will not fully be realized until the Coosa-Alabama Rivers are fully developed and navigable from Rome, GA, to Mobile, AL.

We specifically request that the design and engineering work on the Coosa project, which was suspended in 1983, be resumed. We further request that rehabilitation of the training dikes and modification of the dredging profile for the Alabama River channel below Claiborne be continued for proper and uninterrupted navigation to accommodate the industries already located along this river system.

Studies of completed waterways such as the Arkansas, and also of the planned Coosa project, show that the returns fully justify the investment.

We, therefore, respectfully request that favorable consideration be given to all of the recommendations for funding for fiscal year 1987 for the eventual completion of this most important and much needed river system.

STATEMENT OF MONROEVILLE, AL

The Monroeville City Council, Monroe County, AL, respectfully submits to you its continued support for the development and maintenance of the Coosa-Alabama River system.

We support the association's request for fiscal year 1987 funding as the total economic benefits to the southeastern region of the United States will not fully be realized until the Coosa-Alabama Rivers are fully developed and navigable from Rome, GA, to Mobile, AL.

We specifically request that the design and engineering work on the Coosa project, which was suspended in 1983, be resumed. We further request that rehabilitation of the training dikes and modification of the dredging profile for the Alabama River channel below Claiborne be continued for proper and uninterrupted navigation to accommodate the industries already located along this river system.

Studies of completed waterways such as the Arkansas, and also of the planned Coosa project, show that the returns fully justify the investment.

We, therefore, respectfully request that favorable consideration be given to all of the recommendations for funding for fiscal year 1987 for the eventual completion of this most important and much needed river system.

STATEMENT OF MONROEVILLE AREA CHAMBER OF COMMERCE, ALABAMA

The Monroeville Area Chamber of Commerce, Monroe County, AL, respectfully submits to you its continued support for the development and maintenance of the Coosa-Alabama River system.

We support the association's request for fiscal year 1987 funding as the total economic benefits to the southeastern region of the United States will not fully be realized until the Coosa-Alabama Rivers are fully developed and navigable from Rome, GA, to Mobile, AL.

We specifically request that the design and engineering work on the Coosa project, which was suspended in 1983, be resumed. We further request that rehabilitation of the training dikes and modification of the dredging profile for the Alabama River channel below Claiborne be continued for proper and uninterrupted navigation to accommodate the industries already located along this river system.

Studies of completed waterways such as the Arkansas, and also of the planned Coosa project, show that the returns fully justify the investment.

We, therefore, respectfully request that favorable consideration be given to all of the recommendations for funding for fiscal year 1987 for the eventual completion of this most important and much needed river system.

STATEMENT OF CHIRS B. HEINZ, SELMA, AL

Again after a quarter of a century we are making a request at our meeting with you in Washington on April 14, 1986, for your continued support of our great river system. We have more rivers in Alabama than any other State in the Union and we need your help.

The Coosa-Alabama, in our opinion, is one of the most important in the Nation. It is serving from north to south and carrying goods from foreign ports to our State.

The engineers had us to make a request of the State of Alabama to contribute to this great system and they have agreed to do so when you give us the go signal. We know you will give your best efforts to the great project.

STATEMENT OF MONTGOMERY COUNTY (AL) COMMISSION

The Montgomery County Commission continues to closely follow the development of the Coosa-Alabama River project which was originally authorized by the Congress in 1945. We believe that the benefits which accrue to the citizens of this region, and to the Nation, fully justify the complete construction and operation of this economical waterway.

We fully support the testimony provided by the Coosa-Alabama River Improvement Association. For many years this group has represented us and they accurately reflect our feelings of support for this waterway project.

Of particular interest to us is funding which would permit resuming the design and engineering work on the Coosa project which was suspended in 1983.

Aiso, we feel that the requested appropriation to continue the operation and maintenance of the upstream reservoirs and hydropower plants at Allatoona and Carters Lake in Georgia is essential for the continuity of this project.

We urge your favorable consideration of the recommended appropriations. Adequate funding as requested is necessary to insure that progress is made for further development of the system and to properly operate and maintain the existing portion. Similar information has been sent to Honorable Tom Bevill, chairman, House Subcommittee on Appropriations for Energy and Water Development, House of Representatives, regarding this matter.

STATEMENT OF HENRY A. LESLIE, PRESIDENT, UNION BANK & TRUST CO., MONTGOMERY, AL

I am writing to you to express my support of the Coosa-Alabama River Improvement Association's request for fiscal year 1987. This institution has been a member of the association for many years and we are vitally interested in the collective effort to maintain and extend the waterway.

The information available on waterways continues to support the fact that waterways, such as the Coosa-Alabama River project, provide efficient transportation, which, in turn, lowers inflation and contributes to reduction of the national deficit.

We solicit your help to continue Federal maintenance and operation of the Alabama River Waterway from Mobile to Montgomery. Extensive commitments to private investment on navigable waterways have been made on the assumption that Federal maintenance and operation of the waterways would be continued.

We will appreciate your favorable consideration of the association's request.

STATEMENT OF ANNE H. TIDMORE, MONTGOMERY, AL

I am writing to say that I support the Coosa-Alabama River Improvement Association and their request for fiscal year 1987. I am proud to be a part of this important effort to maintain and extend our waterway here in Alabama.

I would ask that you might help us undertake the following matters: (1) To resume the design and engineering work on the Coosa project; (2) that you would allow the rehabilitation of the training dikes and dredging on the channel below Claiborne to continue; (3) and that you would see that Federal maintenance and operation of the Alabama River Waterway from Mobile to Montgomery continue and that you will generally support the program.

STATEMENT OF CHILTON COUNTY (AL) COMMISSION

The Chilton County Commission is on record in support of the Coosa-Alabama River Improvement Association, Inc., request for funding for fiscal year 1987. We are part of the collective effort to maintain and extend the waterway.

Hopefully, the Mobile Harbor will be improved, and eventually the Coosa River project resumed.

Chilton County's economy, as well as the State and Nation, will be greatly affected by the continuation of this project.

STATEMENT OF THE ANNISTON (AL) STAR

Although Anniston is not on the Coosa River per se, we have always felt that the river development would be a great asset to the county, the State, and the Nation.

Our newspaper has supported this activity for more than 50 years. We further must support the Coosa-Alabama River Improvement Association, Inc., request for fiscal year 1987. This is part of a collective effort to maintain and extend the waterways. We should also resume design and engineering work on the Coosa project, which was suspended in 1983.

Further, we should continue rehabilitation of the training dikes and modification of the dredging profile for the Alabama River channel below Claiborne. We also should continue to maintain and improve Mobile Harbor.

Further, extensive commitments to the private investment on navigable waterways have been made on the assumption that Federal maintenance and operation of the waterways would be continued and, as stated before, the public policy decision to invest in an underdeveloped region like the Coosa Valley would strengthen the Nation as a whole.

Thanks for your assistance in this matter.

STATEMENT OF GADSDEN, AL

I plan to attend the upcoming budget hearings in Washington on April 14 and appreciate the opportunity to support the Coosa River Action Council in their efforts to make the Coosa navigable.

The development of the Coosa River is one of the keys to the economic growth of Gadsden and the Etowah County area. An efficient waterway system will greatly reduce our unemployment and enhance the development of our natural resources.

We have confidence that your committee will see fit to fund the design and engineering work on the Coosa River project. I thank you for your consideration in this matter.

STATEMENT OF GADSDEN-ETOWAH CHAMBER OF COMMERCE, ALABAMA

The Gadsden-Etowah Chamber of Commerce, representing almost 800 businesses in Etowah County, encourages the full development of the Coosa River to realize the potential of northeast Alabama. As a member of the Coosa-Alabama River Improvement Association and as the administrative agency of the Coosa River Action Council, the chamber supports the maintenance and extension of the entire Coosa-Alabama Waterway. We strongly urge that funding for the entire project be included in the 1987 fiscal year budget, and particularly ask for the resumption of the design and engineering work on the Coosa project.

As you may know, the economy of our region has been hard hit during the past 4 or 5 years. The unemployment rate in January 1986 was 10.1 percent, significantly above the national average of 6.7 percent. Although economic conditions are now improving, we have a long way to go. A completed Coosa-Alabama Waterway project will give an immeasurable boost to Etowah County, to the State of Alabama, and to the Nation. The chamber is ready to assist both the State and Federal Government in making this waterway development a reality. Your consideration and action is needed—and it will be most deeply appreciated.

RESOLUTION OF ST. CLAIR COUNTY COMMISSION, ALABAMA

WHEREAS, the Congressional Appropriations Subcommittee hearings are scheduled for April 14, 1986, in Washington, DC; and

WHEREAS, representatives of the Coosa-Alabama River Improvement Association, Inc., will again testify in support of maintenance of the Alabama River as well as the Port of Mobile, along with other specific interests;

NOW THEREFORE BE IT RESOLVED That the St. Clair County Commission go on record in support of the Association's requests for fiscal year 1987;

FURTHER, that copies of said resolution be forwarded to the Coosa-Alabama River Improvement Association, Inc., Montgomery; the Honorable Tom Bevill, Chairman, House Subcommittee on Appropriations for Energy and Water Development; and the Honorable Mark Hatfield, Chairman, Subcommittee on Appropriations for Energy and Water Development, United States Senate;

Adopted this 11th day of March, 1986.

STATEMENT OF DON L. HARRELL, JR., MANAGER, SALES ADMINISTRATION, VULCAN MATERIALS CO., BIRMINGHAM, AL

We strongly support the testimony and funding requests of the Coosa-Alabama River Improvement Association. We join in the regional effort to improve and extend the Alabama-Coosa Waterway. We feel that there is an immediate need to extend the commercial navigation channel from Montgomery to Gadsden, AL. The extension of the river system to Gadsden will not only benefit an area that has been extremely hard hit by a depressed economy, but will take advantage of the lower costs, energy-efficient barge transportation. We estimate that we would ship between 100,000 and 300,000 tons of crushed slag and stone from our Gadsden plants to the Montgomery and south markets if the river were navigable.

The Alabama River has proven to be a good investment. We feel that the money needed in the operations and maintenance area, to complete the rehabilitation work on the training dikes and the new dredging, is essential in order to improve the channel's reliability and to help the Alabama River reach its designed potential. Waterways provide efficient transportation productivity that, in turn, lowers inflation, and we need to utilize our given resources to the betterment of the people of our Nation. The completion of this project will be an investment in the future of our region and Nation.

STATEMENT OF MONTGOMERY (AL) AREA CHAMBER OF COMMERCE

As you are aware, the Montgomery Area Chamber of Commerce has, since 1890, strongly supported the development of the Coosa-Alabama River system because we have always believed that such development is vital to the cultural, industrial, and economic development of Alabama and the Southeastern United States. Today, with the rapid total development of the whole Sunbelt area, this need is greater than ever before.

Studies have been made and presented which fully justify the beliefs we have held and show the array of benefits, never before possible, which will result from the total utilization of this great river system.

We are well aware of, and are most grateful for, your strong support of this project and request that you and your committee approve the appropriations requested for the Coosa-Alabama River system for fiscal year 1987. We will be most grateful for your continued support for this most important, worthwhile project.

STATEMENT OF PRATTVILLE, AL

I strongly endorse the goals of the Coosa-Alabama River Improvement Association, Inc., as will be presented in their testimony before your committee.

The future industrial development of a large part of Alabama depends upon continuation of this project. As our city and county are located adjacent to the Alabama River, I am sure that you can understand my concern for and support of this undertaking.

Our citizens would appreciate any assistance you can give to this enterprising and much needed endeavor.

STATEMENT OF CHEROKEE COUNTY (AL) COMMISSION

The Cherokee County Commission requests your favorable consideration be given the Coosa River project which extends from Rome, GA, through Alabama. This river flows through Cherokee County and we feel it would be very beneficial to area industry and farmers to have this waterway improved. Navigable waters would be both convenient and economical and would help manufacturers and farmers compete to improve our balance of payments.

Again we request your help in resuming designing and engineering on this project and other projects in our State, the Southeast, and the Nation.

STATEMENT OF JAMES T. JORDAN, CENTRE, AL

I am very much in support of the Coosa-Alabama River Improvement Association's request for fiscal year 1987, and I am a part of a collective effort to maintain and extend the waterway.

One particular area that I would like to see resumed is the design and engineering work on the Coosa project that was suspended in 1983. I would also like to see the improvement and maintenance of Mobile Harbor.

Since the waterways provide a competitive alternative for shipping, this would really help our overall economy. The freight rates would be lowered and are in the national interest as manufacturers and farmers compete to improve our balance of payments.

We appreciate all of your efforts concerning this project.

STATEMENT OF MONTGOMERY, AL

Over the years, the city of Montgomery has actively supported the development of the Alabama-Coosa River system. A navigable Alabama river opens doors to international trade through the Port of Mobile. Additionally, the benefits of low-cost barge transportation will help assure the prosperity of industrialized communities when we extend the present channel up the Coosa River.

I fully support any and all efforts to reduce Federal spending to the point necessary to control the huge Federal deficit and, therefore, I ask that you fund the Alabama-Coosa River system to the extent you are capable, consistent with other national needs.

STATEMENT OF ETOWAH COUNTY (AL) COMMISSION

On behalf of the Etowah County Commission, I would like to take this opportunity to express my wholehearted support of the Coosa River navigation project and would like to see this project completed as soon as possible.

This project would give a tremendous boost to our already sick economy by creating employment, as well as future employment benefits. When completed, the State of Alabama, as well as others, will greatly benefit from this project.

I feel that at this time we cannot afford to miss this opportunity to invest in the future of our country's citizens and it's lands.

Thank you for your attention to this matter.

STATEMENT OF NEWS PUBLISHING CO., ROME, GA

Our newspaper has recognized for many years the vast potential that lies within the scope of the Coosa-Alabama River system. Completion of the system will directly enhance the economic well-being of countless thousands of citizens.

Your subcommittee has looked with favor upon this program in the past and all of us closely involved are grateful. We know that you are also aware that completion of the program as rapidly as possible is in the best interest of both the Government and the people.

We specifically ask that you resume design and engineering work on the Coosa project, which was suspended in 1983. Also maintenance and operations moneys for Alabama River, Allatoona, Carters Lake, Claiborne, Jones Bluff, and Millers Ferry dams and locks, and improving Mobile Harbor.

We earnestly solicit your continued support and urge that favorable consideration be given to the total fiscal year 1987 request.

STATEMENT OF MOBILEAUDIO, ROME, GA

Our newspaper has recognized for many years the vast potential that lies within the scope of the Coosa-Alabama River system. Completion of the system will directly enhance the economic well-being of countless thousands of citizens.

Your subcommittee has looked with favor upon this program in the past and all of us closely involved are grateful. We know that you are also aware that completion of the program as rapidly as possible is in the best interest of both the Government and the people.

We specifically ask that you resume design and engineering work on the Coosa project, which was suspended in 1983. Also maintenance and operations moneys for Alabama River, Allatoona, Carters Lake, Claiborne, Jones Bluff, and Millers Ferry dams and locks, and improving Mobile Harbor.

We earnestly solicit your continued support and urge that favorable consideration be given to the total fiscal year 1987 request.

STATEMENT OF ROME PRINTING CO., ROME, GA

Our newspaper has recognized for many years the vast potential that lies within the scope of the Coosa-Alabama River system. Completion of the system will directly enhance the economic well-being of countless thousands of citizens.

Your subcommittee has looked with favor upon this program in the past and all of us closely involved are grateful. We know that you are also aware that completion of the program as rapidly as possible is in the best interest of both the Government and the people.

We specifically ask that you resume design and engineering work on the Coosa project, which was suspended in 1983. Also maintenance and operations moneys for Alabama River, Allatoona, Carters Lake, Claiborne, Jones Bluff, and Millers Ferry dams and locks, and improving Mobile Harbor.

We earnestly solicit your continued support and urge that favorable consideration be given to the total fiscal year 1987 request.

STATEMENT OF S.T. NUTTING, RESIDENT MANAGER, UNION CAMP CORP., MONTGOMERY, AL

As a member of the Coosa-Alabama River Improvement Association, Inc., Union Camp Corp. has kept abreast of the efforts to fund development of the Coosa-Alabama River system.

We have a special interest in the maintenance and future development of the Alabama River from Montgomery to Mobile, especially rehabilitation of the training dikes and modification of the dredging profile of the river channel below Claiborne.

At some time in the future, our ability to barge linerboard from Montgomery to Mobile for export or movement into other river systems would be of great benefit.

Also, the upstream development of the Coosa system may provide Union Camp with some future benefit in terms of possibly barging wood to the mill in Prattville.

Therefore, because of the potential benefit to our operations in Alabama, especially on the Alabama River, we are supportive of the association's request for fiscal year 1986 funding.

RESOLUTION OF FLOYD COUNTY, GA

THAT WHEREAS, the Congress of the United States is again considering appropriations for the fiscal year 1987 for further work to make navigable the Alabama-Coosa River System from Mobile, Alabama to Rome, Georgia; and

WHEREAS, the Coosa river Navigation Project is of particular concern to Floyd County, Georgia and this Board wishes to express its wholehearted support for the objectives of the Coosa-Alabama River Improvement Association; and

WHEREAS, we urge your favorable consideration of the U.S. Corps of Engineers Fiscal 1987 appropriation for this project; and

WHEREAS, the operation and maintenance of the important upstream reservoirs and hydro-power plants of Allatoona and Carters Lake in Georgia are invaluable hydroelectric generating facilities; and

WHEREAS, with the high unemployment in our area and surrounding areas, this project is even more vital to our sick economy and an investment in our future economic strength.

NOW, THEREFORE, BE IT RESOLVED, that this Board of Commissioners wish to go on record in support of the Coosa River Navigation Project.

Done in open meeting this 25th day of March, 1986.

OHIO RIVER NAVIGATION SYSTEM

STATEMENTS OF:

BARRY PALMER, EXECUTIVE DIRECTOR, DINAMO/OVIA

TOM REISHMAN, DEPUTY COMMISSIONER, WEST VIRGINIA DEPARTMENT OF ENERGY

Senator JOHNSTON. Next, we want to welcome Mr. Barry Palmer, executive director of DINAMO/OVIA.

Mr. PALMER. Thank you, Mr. Chairman. It is pronounced DIN-A-MO, and I didn't create the acronym, but it means the Association for the Development of Interstate Navigability in America's Ohio Valley. In 1981, the Governors of four States created this organization; that is, Governors of Pennsylvania, Ohio, West Virginia, and Kentucky. We effectively joined the public sector, State government, the private sector, and the interests in the Ohio Valley for one purpose, and that is to modernize and expedite the modernization of the lock and dam infrastructure on the Ohio River system.

I have with me this afternoon the Deputy Commissioner of West Virginia's Department of Energy, Mr. Tom Reishman, on my left, and he will be making the majority of the remarks. The counsel to DINAMO, with Mr. Edgar Hamburger of Lewis & Hamburger is also with us today.

PROJECTS OF INTEREST TO DINAMO

We are here today to recommend funding in fiscal year 1987 of a number of projects. Basically, we are concerned with moving forward with construction at Gallipolis lock and dam; locks No. 7 and No. 8 on the Monongahela River, the Winfield lock and dam on the Kanawha River which flows from the Ohio River into Charleston, WV, and also locks No. 52 and No. 53 on the Ohio River.

We want to thank you and Senator Hatfield for the leadership that you gave in the appropriations process to get the Senate Environment and Public Works Committee to move forward with their authorization bill. It is very, very important for us, together, through the economic and the state political interests, to move forward with this effort.

ADDITIONAL FUNDING REQUEST

There are two areas that we would like the committee to give some additional output to, and that is additional moneys for a placement for the real estate acquisition at Gray's Landing, otherwise known as lock No. 7 on the Monongahela River. We have attached a copy of the letter from Maj. Gen. E.R. Heiberg, indicating an increased capability, or an additional capability, to move forward with a real estate acquisition at Gray's Landing.

Also, there is a capability for additional funding for lock and dam No. 52 and No. 53 on the Ohio River.

Largely through your efforts, Senator, we have broken into a new category of funding last year, continued planning and engineering for locks 52 and 53. You provided the leadership over here and the continued interest from Senator Ford. We think that this project is going to be the next big Gallipolis project following this authorization bill.

Senator JOHNSTON. Senator Ford has been writing to us and talking to us about that.

Mr. PALMER. I think close to 30 percent of the traffic that originates and goes through lock and dam 52 and 53, or in the high 20's, comes from the State of Louisiana.

With that, I will just thank you for your help and let Mr. Reishman address some remarks about the importance of these projects.

ECONOMIC CONDITION OF THE OHIO VALLEY

Mr. RISHMAN. Thank you, Senator, for the time to share some of our perspectives with you. There has been a lot of talk in the last several years that the industries located in the Ohio Valley are dying industries. I would like to take issue with that. Our primary industries which are served by the waterway is coal, steel, chemical, and aluminum, to some extent.

I would like to dwell on the coal for a second. Although we do have less than half of the miners's working in our coal fields today compared to 10 years ago, that is basically 33,000 miners compared to 63,000 miners. We are mining more coal at this point in time than we have in the last 15 to 20 years. We are mining approximately 130 million tons of coal, which is shipped to approximately 25 States. West Virginia is also the largest exporter of coal out of the United States.

NEED FOR ALTERNATIVE MODES OF TRANSPORTATION

Ten years ago, none of that coal was shipped by the water system through New Orleans. Today, I would say on the magnitude of 3 to 4 to 5 million tons are shipped via the Mississippi-Ohio River system through New Orleans for export.

As railroads become deregulated and more and more mergers take place in the major rail companies, we see a great hardship placed on small and intermediate companies and the inability to get their coal moved economically.

The riverway system being composed of competitive companies really offers that avenue, that back-door approach, so to speak, to the export market. Although we have lost a lot of mining employment in the last several years, we are a much more streamlined and efficient industry from a coal producer's point of view.

Similarly, the steel industry has retrenched significantly in the last several years, bringing about a much healthier industry, one that is able to compete domestically as well as overseas. Water transport has been a viable option to the long-term development of this region.

If modernization does not occur at Gallipolis, 7 and 8 on the Kanawha River system—all those locks and dams were basically built in the twenties, thirties, and in some instances, forties, economic progress will halt. They have put forth a very commendable 50 years' worth of development to the area and I believe it is now time for Congress, as well as the industries involved, to look at modernizing economic vitality in that system. I thank you for your time and patience.

Senator JOHNSTON. Thank you.

Thank you very much, gentlemen. We are strong supporters as you know, on this committee of those projects, and we hope we can fit them into our crowded, Gramm-Rudman impacted, bill.

Mr. PALMER. Thank you very much, sir.

[The statement follows:]

STATEMENT OF TOM REISHMAN, DEPUTY COMMISSIONER, WEST VIRGINIA DEPARTMENT OF ENERGY, ON BEHALF OF DINAMO/OVIA

Mr. Chairman and Members of the Subcommittee:

My name is Kenneth Faerber and I am the Commissioner of the West Virginia Department of Energy and a Vice Chairman of the Board of DINAMO/OVIA - the Association for the Development of Interstate Navigability in America's Ohio Valley. This Association is dedicated to the development and more effective use of the navigation system of the Ohio River and its connecting waterways. Our membership includes major industries, labor organizations, state and local government, chambers of commerce, banks, port authorities, and river operators who support our work and program.

We are here today to recommend funding in Fiscal Year 1987 of the following projects. Our recommendations for general investigations, continued planning and engineering, and construction of lock and dam projects on the Ohio River navigation system are in harmony with balanced budget objectives now and in the future. Except where noted, these requests are identical to those values found in the President's budget:

(1) For the Gallipolis Modernization Project on the Ohio River - $3,500,000 to complete advanced engineering and design and for real estate acquisition.

(2) For Gray's Landing, otherwise known as Lock Number 7 on the Monongahela River, $4,200,000 for completion of advanced engineering and design and to proceed with real estate acquisition. The President's budget includes on $670,000 for this vital project.

(3) For Point Marion, otherwise known as Lock Number 8 on the Monongahela River, $730,000 for engineering and design of the facility.

(4) For the Winfield Lock and Dam on the Kanawha River, $1,750,000 for engineering and design of the facility.

(5) For Locks and Dams Numbers 52 and 53 on the Ohio River, otherwise known as the Olmsted Lock and Dam Project, $2,500,000 for advanced engineering and design work. The President's budget includes $1,500,000 for this work.

(6) For the Ohio River Main Stem Study, which includes Emsworth, Dashields, Montgomery Island and McAlpine Locks and Dams - $1,710,000 for General Investigation.

(7) For the Cumberland and Tennessee Rivers - $1,450,000 for General investigation.

(8) For Locks and Dams Numbers 2, 3, and 4 on the Monongahela River - $700,000 for General Investigation.

(9) For the Marmet Locks on the Kanawha River - $650,000 for General Investigation.

We are keenly aware of the urgency of budgetary restraint in Fiscal Year 1987 as well as the objective of balancing the Federal budget by

Fiscal Year 1991. In fact, construction funding on America's inland navigation system has been in a budget crisis since the seventies.

For example, in dollars of 1985 purchasing power, Federal expenditures for inland navigation new construction fell from an average of $505 million per year in the years 1971 through 1975 to $384 million per year in the years 1981 through 1985. This is a 24 percent reduction in real dollar expenditures.

The projects outlined previously are a part of DINAMO/OVIA's long-range recommendations. These recommendations are based on information drawn from the National Waterways Study. That study identified 41 locks and dams which will need to be replaced or require major rehabilitation. In today's dollars, the cost of the program is $6.7 billion. Over a thirty year time-frame, the average annual cost to replace or rehabilitate these 41 locks and dams would be $223 million. This amount is 55 percent less than the $505 million per year average annual expenditures from 1971 to 1975 and 42% less than the $384 million per year than we are spending today.

It is believed that a substantial portion, perhaps as much as one-half, of this annual expenditure of $223 million will not come from general revenues but from the private sector taxes, or user fees, accumulating in the Inland Waterways Trust Fund. The Federal Treasury's share of this long-term program would be only $111.5 million per year. This amount is a 71 percent reduction from the 1981-1985 annual average expenditure of $384 million.

There has been a myth expressed that the industries making the most use of the inland waterways are now in decline and that there is no longer any need for the same level of waterway improvement and maintenance as in the past. This is a seriously false impression and it is important that we correct it.

Ohio Valley industries such as coal mining, steel, chemicals, oil refining, electric power generation, and farming are among the heaviest users of the inland navigation system. They are now at a critical juncture in their development. Some have been depressed and, in recent years, most have been severely challenged by foreign competition. While current developments offers high promise of future recovery, an adequate

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transportation base will be crucial to the realization of these industries' long-term success.

The DINAMO/OVIA analysis of the long-term outlook is included in our written testimony. In that analysis, we looked at six key industries which substantially use the waterways - coal, steel, chemicals, petroleum and petroleum products, chemicals, and agriculture. In each case, all the signs point to a future with expansion, growth and a continued reliance on low-cost water transportation. I would like to briefly outline the prospects for these industries.

COAL - Robert R. Nathan and Associates, under contract to the Corps of Engineers, projects coal movements on the Ohio River System in the year 2000 at 204.2 million tons, about double the 1983 tonnage. The National Coal Association assumes, less optimistically, that by the year 2000 about 157.3 million tons will move on the Ohio System. Even the lower estimate will mean about 18,000 more jobs and $2.0 billion in increased earning for the Ohio Valley.

ELECTRIC ENERGY - Utilities are the largest users of coal in the region. Waterborne coal is delivered to Ohio Valley utilities at a fraction of the cost per kilowatt-hour of competitive modes. This is a tremendous stimulus to business investment as well as an advantage to homeowners. The average residential customer of American Electric Power, the Ohio Valley's largest investor-owned utility, paid 20% less per kilowatt-hour than the industry average.

In addition, these benefits extend far beyond the Ohio Valley. System inter-connections allow the Ohio Valley power stations to provide back-up capacity for cities like Detroit and New York.

STEEL - The Ohio Valley steel industry is still the second largest consumer of waterborne coal in our region. Virtually all of the metallurgical coal consumed in the Pittsburgh District, which is still the single largest steel producing region in the nation, is waterborne. The cost advantage of this waterborne coal is essential to the future of steel-making in the Ohio Valley.

The Ohio Valley reduced its steelmaking output from 23.8 percent to 18.9 percent of the nation's total production in the 1971 to 1975 versus 1981 to 1985 periods, respectively. By reducing its capacity through the closing of obsolete mills, lowering production costs and improving worker productivity, steelmakers in the Ohio Valley are positioning themselves for the future. From 1983, which was the low point for steel in the recent recession, to 1984, Ohio Valley steel production rose 17.8 percent compared to a nationwide average growth of 10.8 percent. Future growth of our region's steel industry is dependent on adequate supplies of metallurgical coal delivered by water.

PETROLEUM AND PETROLEUM PRODUCTS - In addition to the refineries in the Ohio Valley, consumers in the region benefit by the waterborne movement of these commodities. Gasoline and diesel fuel amounting to over 1 billion gallons are delivered to the Ohio Valley each year. Over 28.7 million barrels of fuel oil were delivered in 1983. It is important to note that these products cannot be delivered by pipeline. Neither can the 4.8 million tons of lubricating oils, greases, asphalt, tar, pitch, and petroleum coke moved in 1983. Most significant is that much of these products are delivered to smaller communities that cannot be economically served by pipeline.

CHEMICALS - The chemical industry is one of the most versatile and diverse industries in America. In 1983, during the recession, over 10.6 million tons of chemical were transported on the Ohio System. this traffic support 29,000 jobs and $455 million in payroll. The Nathan study predicts a doubling of traffic to 22.4 million tons by the year 2000 with a similar effect on jobs and earnings.

AGRICULTURE - In 1983, 328.5 million bushels of corn, wheat, and soybeans alone were shipped on the Ohio River System. These crops had a value of $1.6 billion. Agricultural shipments on the Ohio System grew at 36.5 percent from 1978 to 1983 versus 33 percent for the rest of the navigation system. As farm debts are reduced, technologies advance, and overvaluations are corrected, America's farm output can only increase. Our farm belt will resume its role as breadbasket to the world.

The Ohio Valley has not yet fully participated in America's economic recovery. We are a region in an economic transition. Industries will change and companies will be affected differently. The constant factor is the river. It has provided, and will continue to provide, the opportunities for economic growth and prosperity for our people and our nation. In conclusion, the DINAMO/OVIA proposal is in concert with Congressional efforts to control spending, enhance the government's revenue base, and provide opportunities for private sector growth in the future. We thank you for your patience and support.

STATEMENT OF KENNETH R. FAERBER, COMMISSIONER, WEST VIRGINIA DEPA^TMENT OF ENERGY, ON BEHALF OF DINAMO/OVIA

My name is Kenneth R. Faerber. I am the Commissioner of the West Virginia Department of Energy in Charleston, West Virginia and a member of the Executive Committee of the Board of Directors of DINAMO/OVIA - the Association for the Development of Interstate Navigability in America's Ohio Valley. This Association, headquartered in Pittsburgh, Pennsylvania, is dedicated to the development and more effective use of the navigation system of the Ohio River and its connecting waterways. Our membership includes major industries, labor organizations, state and local governments, chambers of commerce, banks, port authorities, river operators, and individual citizens who support our work and program.

I. THE OHIO RIVER SYSTEM - MAGNITUDE, EXTENT AND MODERNIZATION PROGRAM

The Valley of the Ohio River and its navigable tributaries lie within nine states, principally in the East North Central Region.[1] The eastern portion is entirely within Appalachia. The Valley encompasses such riverside metropolitan areas as Pittsburgh, Charleston and Huntington, West Virginia, Cincinnati, Louisville, Evansville, Nashville, and Guntersville, Alabama, in addition to numerous other waterway ports.

The eight interconnecting rivers of the Ohio Valley comprise a navigable system of 2,582 miles. This is about 10 percent of all the inland waterways of the United States. But, in the latest year reported (1983), this 10 percent carried 35 percent of the nation's inland waterborne tonnage. Through its direct connections with the Mississippi and its tributaries and with the Tennessee-Tombigbee Waterway, the river system connects the Valley's industries with sources and markets throughout the Mississippi Basin and the Gulf Coast. In 1983, the Ohio River System carried 171.2 million tons of freight, nearly three-fold the tonnage which transitted the St. Lawrence Seaway that year, U.S. and Canadian combined, and 48.6 percent of the total inland tonnage carried on the entire Mississippi River System.

The Problem of Deteriorated and Obsolete Navigation Structures

Modernization of the Ohio River System is lagging seriously. The System is equipped with 61 federally-built and maintained lock and dam structures. Modern vessel operation is highly competitive and technologically advanced, and most of these structures are fully compatible with this technology. The system is hampered, however, by a few antiquated bottlenecks, some in an advanced state of deterioration. It is critical to the future of this extensive sector of the American economy that these bottlenecks be relieved as promptly as orderly and economical procedures will permit.

It is also important to private investment in shipping and receiving industries that work on bottleneck relief proceed with reasonable adherence to programmed schedules. Investment in mines and factories is keenly sensitive to the outlook for long-term influences on cost and market access, and unpredictable delays in bringing the waterway system up to fully modern standards introduce a major element of cost uncertainty adverse to the long-term commitment of private capital.

The particular projects for which we recommend funding in Fiscal 1987 are presented as follows:

Recommended Projects

		Fiscal 1987	
		President's Budget	DINAMO/OVIA Recommendation
(1) Ohio River, Gallipolis Modification Project	Complete advanced engineering & design & real estate acquisition estate acquisition	$3,500,000	$3,500,000
(2) Monongahela River, Gray's Landing (Lock #7)	Complete advanced engineering & design; proceed with real estate acquisition	$ 670,000	$4,200,000
(3) Monongahela River, Point Marion (Lock #8)	Engineering & design	$ 730,000	$ 730,000
(4) Kanawha River, Winfield Lock & Dam	Engineering & design	$1,750,000	$1,750,000
(5) Ohio River, Olmsted Lock & Dam (replacing L/D #52 & #53)	Advanced engineering & design	$1,500,000	$2,500,000
General Investigations			
(1) Ohio River, Emsworth, Dashields & Montgomery Island Locks and Dams		$ 810,000	$ 810,000
(2) Ohio River, McAlpine		$ 900,000	$ 900,000
(3) Cumberland-Tennessee Rivers (River bends on Cumberland & Kentucky Lock on Tennessee River)		$1,450,000*	$1,450,000*
(4) Monongahela River, Locks and Dams #2, #3 & #4		$ 700,000	$ 700,000
(5) Kanawha River, Marmet Locks		$ 650,000	$ 650,000

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*Of the $1,450,000 million recommended for the Cumberland and Tennessee Rivers, only $900,000 is for navigation.

II. MAJOR INDUSTRIES OF THE OHIO VALLEY - OUTLOOK AND WATERWAY IMPACT

Concern has been expressed that the industries making the most use of the inland waterways are now in decline and that supposedly, therefore, there is no longer any need for the same level of waterway improvement and maintenance as in the past. This is a seriously false impression, and it is important the we correct it.

In the Ohio Valley, such industries include coal mining, steel, chemicals, oil refining, electric power, and farming. They are now at a critical juncture in their development. Some have been depressed and, in recent years, most have been severely challenged by international competition. But, current development offers high promise of future recovery, and an adequate transportation base will be crucial to realization of this promise.

Waterways Development for the Long Term

Waterway improvements are built for the long term, whereas the current problems of the valley industries are mainly either short-term or medium-term. Their long-term outlook is favorable. The immediate outlook for steel, coal, chemicals, oil refining, or farming has little relevance to a waterway project which cannot be brought into service before 1993, and is designed to serve thereafter for 50 years. Our recommendations, therefore, look ahead well into the Twenty-First Century.

We may learn from past experience in this regard. In the 1930's, the nation's economic outlook was one of indefinite stagnation. Distinguished American economists and civic leaders proclaimed the arrival of the "mature economy". Growth, they asserted, had ended with the disappearance of the frontier. Projections made in 1935 looked forward to a total 1980 population of about 150 million. (Actually it was 227.7 million.) GNP expectations contemplated, at best, a return to the levels of the late 1920's.

In the face of this discouraging outlook, the Federal Government carried forward the most massive improvement on the inland waterways in history, completing the canalization of the Upper Mississippi, the Illinois, and the Tennessee Rivers, further improving the Ohio, and extending the Gulf Intracoastal Waterway. After World War II, expansion of the water-based industries and their waterborne traffic soared beyond the wildest dreams of the stagnation theorists. As an example, canalization of the Upper Mississippi was authorized in 1930 on a traffic expectation of 9.0 million tons per year. In 1983, in spite of the recession, the Upper Mississippi actually carried 84.1 million tons. Likewise, in 1986, America's waterways should be brought up to a standard geared to the long-term and suitable as an infrastructure to sustain massive economic growth into the middle of the Twenty-First Century.

Bituminous Coal

The largest waterborne commodity movement on the Ohio River System is bituminous coal. In 1983 (the latest year reported), it amounted to 100.7 million tons, equal to 13.0 percent of all the coal produced in the United States and close to one-third of the total mined in Kentucky, Ohio, West Virginia and western Pennsylvania, combined.

The outlook for waterborne coal is one of substantial growth. An in-depth study by Robert R. Nathan Associates, under contract with the Army Corps of Engineers, projects coal movement on the Ohio River System in the year 2000 at 204.2 million tons, about double the 1983 tonnage. Less optimistic projections made in 1986 by the National Coal Association indicate for the year 2000 about 157.3 million tons.[2]

The waterborne coal on the Ohio River System in 1983 had a mine value of about $3.3 billion and represented the employment of 33,300 miners.[3] Taking the more modest tonnage projection of the National Coal Association, the movement in the year 2000 would have a mine value of $5.2 billion, principally income to the region. At the same output per miner as in 1983, the year 2000 movement would provide 52,000 mining jobs, an increase of 18,700 over 1983.

These projections, of course, are subject to unpredictable changes in coal prices and in worker productivity. Yet, it remains obvious that, in the Appalachian coal mining industry, somewhere in the neighborhood of $2.0 billion of increased income and close to 18,000 more jobs are at stake in an adequate and efficient navigation system on the Ohio and its tributaries.

Lest it appear that these projections are too optimistic, the National Coal Association based them on the very modest expectation of an average increase in output from 1984 to 1990 of only 1.4 percent yearly and, from 1990 to 2000, of 2.3 percent. In early 1986, coal mining is constrained by the extreme slump in competitive fuel oil prices, a temporary circumstance. Meanwhile, the decline in the value of the dollar internationally offers promise of renewal in the growth of exports.

Increasing utilization of coal is clearly in the national interest. A reliable supply of energy is vital both to the U.S. economy and to national security. Continued economic growth in the long term will mean a rising demand for energy. Domestic sources of oil and gas involve ever-higher investment and rising costs as exploration moves into less accessible reaches of the oceans and inhospitable regions of the planet. The alternative of a substantial and growing reliance on oil imports would subject the nation's energy supply to the unpredictable actions of foreign governments, particularly in the volatile Middle East, and the roller-coaster gyrations in price these influences exert could prove highly disruptive to the U.S. economy.

As for national security, foreign sources are conspicuously unreliable, and domestic oil fields on the continental shelf and in the Arctic are highly vulnerable to military attack. In contrast, domestic coal reserves are adequate for centuries, supply is stable, and the producing regions lie in the continental interior.

A modernized and efficient navigation system on the Ohio River and its tributaries will also serve as a wholesome check on railroad rates. With recent and continuing mergers of large railroad companies, interline railroad competition progressively declines. Substantial deregulation of rate-making, particularly on coal, further invites excessive rail charges.

By contrast, commercial navigation on the inland rivers is intensely competitive, and a fully modernized and efficient navigation system will exercise a wholesome restraint on competitive railroad rates. Coal movements to Gulf Coast consumers are directly affected; coal exports even more so. Barge movements of Ohio Basin coal for export via Gulf ports compete with rail shipments, not only via the Gulf, but, as well, via the Atlantic coastal ports.

Coal has a reputation as a dirty fuel. But, it is cleaning up. Large reserves of Ohio Basin coal are low in sulphur content. Progress in the technology of coal preparation and combustion offers rising promise of non-polluting stack emissions, even with higher-sulphur coals.

On November 7, 1985, the voters of Ohio approved a state constitutional amendment authorizing issuance of state "Coal Research and Development Bonds" in an amount up to $100 million for this purpose, and in early 1986 the State Legislature enacted legislation to implement this program. The probability is thus very high that by the end of the century all Ohio Basin coals will rank high in their contribution to clean air objectives.

Electric Energy

The largest portion of the coal carried on the Ohio River and its tributaries moves to riverside electric utility stations. The delivered cost of waterborne coal at these stations is only a fraction of the average fuel cost per kilowatt-hour nationwide, a cost advantage conducive to lower rates for homes, farms, municipalities, and industries, and a consequent stimulus to commercial and industrial development and employment. The largest investor-owned electric utility serving the Ohio Valley (American Electric Power) notes:

> "The AEP System's average residential customer in 1983 used about 20% more electricity - but paid about 20% less for it (i.e. per KWH) - than his counterpart for the investor-owned utility industry as a whole."[4]

The benefits of low-cost electric energy extend hundred of miles inland from the riverside stations. High voltage transmission lines provided electricity for such inland cities as Canton, Dayton, and Columbus, and through system interconnections, have provided backup energy to avert power shortages in such cities as New York and Detroit.

Steel

The second largest consumer of waterborne coal is the Ohio Valley steel industry. The availability of metallurgical coal of high quality, moved from riverside mines via the Monongahela River, has long been the principal cost advantage of the Pittsburgh District, the largest steel-producing district in the Valley. With changing technology, coal originating by rail in southern West Virginia and eastern Kentucky, and transferred to barges in the Huntington area for carriage upstream on the Ohio, has come to play a large role in low-cost fuel in the Pittsburgh District and the Upper Ohio Valley. Virtually all the metallurgical coal consumed in the Pittsburgh District is waterborne.

The improvements we recommend on the Upper Ohio and the Monongahela River are obviously of critical importance to this coal supply. They are of comparable importance to movement of ferrous materials and finished steel. In 1983 (the latest year reported), the Ohio River System carried 3.4 million tons of iron ore, pig iron, ferrous scrap, and steel products. Of this total, 2.3 million tons (67.6 percent) consisted of steel products and ferroalloys, principally of Ohio Valley origin. The steel products alone had a mill value exceeding $504 million, and their production generated employee income of some $230 million. The steel industry is a major purchaser of materials, supplies, and services from local enterprises. The steel shipped on the Ohio River System in 1983 represented expenditures of about $380 million for this purpose, much of it revenue to a wide variety of establishments in the Ohio Valley.[5]

While the integrated sector of the steel industry has undergone reverses in recent years, its long-term outlook appears favorable. Robert R. Nathan Associates project that in the year 2000 the Ohio River System will carry about 9.4 million tons of ferrous materials and products and in 2020 14.3 million tons. The Nathan findings are based on projected growth in steel demand in every BEA region in the Ohio Basin and make full allowance for a large growth to be carried by rail and truck.

Signs of a turnaround in the domestic steel industry are already at hand. With retirement of less efficient works, rising productivity, and the return of the dollar to a more normal relationship to foreign currencies, steel imports are declining while domestic demand holds strong. American steel is becoming more price competitive. Peter Marcus, a steel analyst for Paine Webber, Inc. is quoted as follows:

> "The list price for major steel purchasers in Japan is $425 a ton for hot rolled sheet, used to make autos, while the U.S. price is now about $100 a ton less."[6]

Most Ohio Valley steel is produced in the Pittsburgh District. Capacity reduction in the district is an indication of future strength. During the five years, 1971-1975, the Ohio Valley produced 23.8 percent of the nation's steel output; from 1981 to 1985, this was down to 18.9 percent. In the past, the Pittsburgh District has been handicapped by an excess of capacity over regional demand and was compelled to absorb freight by shipping steel to distant markets served more cheaply by competitive mills. Its reduced capacity now gives it a better balance between capacity and demand in the nearby consuming areas where it has a natural advantage on cost and service. From 1983 to 1984, while steel production nationwide increased by 10.4 percent, that in the Ohio Valley went up 17.8 percent. Allegheny Ludlum, headquartered in Pittsburgh, had record sales in 1984 and earned an impressive 18.0 percent on capital.

In 1983, in Weirton, West Virginia, on the Ohio River, 9,500 steelworkers agreed to trade off 20 percent of their pay for a chance at profits by buying the huge Weirton steel plant from National Intergroup, Inc. With costs thereby reduced and with a sterling reputation for a superior product, investment bankers and consulting agencies give these workers a good chance of success in spite of incursions by alternative materials into the market for their main product (tin plate). This is the largest employee-owned industrial plant in the nation, and probably in the world, and a modernized waterway at the plant loading docks will be one more step toward assuring the success of the workers' venture.

The maintenance of a large and healthy integrated steel industry in the United States, utilizing ores and fuels internal to the continent, is absolutely essential to national security. Steel is the principal material for the production of warships, artillery, small arms, tanks and the immense fleets of motor vehicles required by the armed forces. An industry of mini-mills will not suffice. Mini-mills are too reliant on uncertain supplies of ferrous scrap and too limited in product versatility. Without a large and efficient integrated steel industry, the United States, in its military posture, would be fundamentally disarmed.

The advancement of these values is deeply involved in the program for modernization of the Ohio River navigation system.

Gasoline, Fuel Oil, and Other Petroleum Products

The shipment of petroleum products on the Ohio River and its tributaries is of importance not only to the region's refining industry but, fully as much, to consumers. Gasoline and diesel fuel are major components of this traffic. In 1983, the gasoline delivered by river barges in the Lower Ohio Basin alone amounted to 1.15 billion gallons, serving motorists, farmers, and truckers in Tennessee, Kentucky, and the states on the north bank of the Ohio. As a measure of magnitude, this was equal to 66.6 percent of all the gasoline consumed in the Commonwealth of Kentucky that year. The waterborne gasoline delivered on the Upper Ohio and the Kanawha Rivers was equal to 41.9 percent of all the consumption of the State of West Virginia. The fuel oil received on the Ohio River System in 1983, including diesel fuel, amounted to over 28.7 million barrels.

It should be noted that pipeline movement is not a suitable alternative. Residual fuel oil cannot move by pipeline under ordinary conditions. Neither can such petroleum products as lubricating oils and greases, asphalt, tar, pitches, or petroleum coke. The Ohio River System carried 4.8 million tons of these products in 1983.

With respect to all petroleum products, river barges provide service to small communities and possess a seasonal flexibility that pipelines lack. Many independent marketers and distributors are too small for pipeline participation. River barging has often been called "the poor man's pipeline". These smaller operators maintain a healthy competitive influence in consumer markets, contributing substantially to lower prices.

An abundance of low-cost motor fuel is of distinctive importance in the Appalachian area. The tourist industry there is a major source of income, and low gasoline prices are a significant attraction. The region likewise looks to continued development of light manufacturers highly reliant on trucking, for which low-cost gasoline and diesel fuel are of great importance.

Waterborne delivery of petroleum products in the Upper Ohio Basin, particularly in western Pennsylvania, contributes significantly to an improved balance of payments. In this area, Ohio Valley refineries and marketers are in direct competition with products received by pipeline from the Atlantic Coast, and their low-cost access to this market restrains the importation via Atlantic ports of products from offshore and foreign refineries. This is of special significance because petroleum products are considerably higher-priced than crude oil. In addition, the products of coastal refineries are more usually derived from imported crude than is true in the Ohio Valley. A fully modernized river system will reinforce the competitive strength of domestic production in the region.

Chemicals

Because of its incomparable versatility, the chemicals industry is of great importance both to the American standard of living and to most other U.S. industries. An enumeration of some of its products only begin to suggest their great variety. These included medicines, food and drug wrappings, synthetic fibers, numerous building materials, automotive and machine parts, adhesives, paint pigments, bleaches, solvents, acids, detergents, and coatings. A complete list would occupy a book. Americans eat, wear and dwell in products of the chemicals industry and their derivatives.

The Ohio River Valley is a major center of this industry, and waterborne carriage is critical to its operations. Even in the recession year of 1983 (the latest reported), the Ohio River and its tributaries carried over 10.6 millon tons of chemicals, sustaining about 29,000 chemicals jobs and some $455 million of payrolls in the region.[7] The Nathan report, previously cited, projects a growth to 22.4 million tons in the year 2000, signaling an approximate doubling of the jobs and payrolls sustained by this movement.

Most of the waterborne chemicals are inbound to the Ohio Valley, and about one-third of the inbound movement consists of farm fertilizers. The remainder are principally crude feedstocks and intermediates for further processing into finished products. Most come long distances. In 1983, 72.5 percent of the inbound receipts came from Gulf Coast origins via the Mississippi, representing to a large degree a logistical tie-in with Gulf Coast oil refining.

Much of the Ohio Valley chemicals industry is thus a finished products industry, its highly-varied output of consumer and industrial necessities distributed, mainly by rail and truck, throughout the Northeast Quadrant of the United States. Sharing its riverbank location with chemicals-consuming industries of the Ohio Valley, its products are important to their low cost and efficiency and thereby to the health of much of the valley economy.

It is clear that a modernized and efficient waterway system is critical, not only to the long-term outlook for jobs and incomes in the chemicals industry, but, as well, to the efficiency of other valley industries, to sustained revenues of Gulf Coast refining, and to an abundance of products at low cost in consumer markets throughout the Northeast.

Agriculture

Waterborne commerce on the Ohio River System is a major contributor to lower farm costs and to farm income, not only in the Ohio Basin, but in the Upper Mississippi and Illinois River Basins as well. We have already noted the low cost of electricity produced from waterborne coal in the Ohio Valley. This is especially important to farmers. Farm operations require a great deal of illumination of barns and other structures as well as of outdoor working areas. A good deal of stationary farm machinery is powered by electricity. In 1983, according to the U.S. Department of Agriculture, the average farm in the four principal farm states of the Ohio Basin consumed 1,185 kwh per month.[8] The region's largest electric utility (the American Electric Power Company, Inc.) reports average residential use that year, urban and rural combined, of only 842 kwh monthly.

The low cost of waterborne motor fuel is likewise critical to farmers. Most farm cultivation consists of continuous operation of tractors and trucks. Considering the many hours of tractor operation per day in the field, the average farmer consumes annually several-fold the quantity of motor fuel as the urban dweller. We have already pointed out the large tonnage of farm fertilizers delivered into the Ohio Valley by river barges.

But, more important even than these, the waterborne shipment of farm crops is a big contributor to farm income. Taking the principal corps alone (corn, wheat, and soybeans), in 1983, over 328.5 million bushels were shipped via the Ohio River. Their farm value was over $1.6 billion.[9] Over 24 percent of these crops consisted of shipments from the Upper Mississippi and Illinois Rivers to upstream Ohio and Tennessee River destinations. The remainder consisted of the products of Ohio Basin farms, mainly in Indiana, Kentucky, and Ohio, principally to the Gulf Coast for export.

Because of the very long distances of movement, reduced transportation costs give a big lift to income realized at the farm. As an example, the river distance from Davenport, Iowa, to Guntersville, Alabama, is 887 miles. From Evansville, Indiana, to New Orleans, it is 1,163 miles. Virtually every farmer in the affected regions benefits from the low cost of these movements. For example, according to data from the U.S. Department of Agriculture, the downbound corn movement on the Ohio River in 1983 was equivalent to the output of 31,724 Indiana farms and represented a sales value of about $14,000 per farm. Wheat, soybeans, and other crops could be added to this.

We cite this equivalence only to indicate magnitude. Actually the benefits are not confined to any particular number of privileged farmers, but are widely distributed to virtually every farm in the affected regions. For one thing, country elevators as far 80 to 100 miles from the rivers originate shipments by rail and truck for transfer to barges for the long haul to ultimate destinations. Furthermore, barge competition has induced most of the midwest and southern railroads to institute water-competitive rates on all-rail movements to the Southeast and the Gulf Coast. These rates, however, are normally contingent on 50-car to 100-car shipments, quantities too large for the numerous small country elevators in the farm regions, which are therefore dependent on low-cost truck-barge service. Many of these elevators do not even have rail connections.

American grain farming is now suffering its greatest hardships since the Great Depression. For many, the large number of farm foreclosures is a story of personal tragedy. But, for the long term, a new chapter will be written. As past overvaluations are corrected, debts based on these scaled down, and advancing technologies applied in the fields, the bread basket of America's interior almost surely will resume its role as the major supplier to a hungry world. The reduced value of the dollar internationally is already a favorable influence.

The participation of Ohio Basin farming in the waterborne movement has been growing. During the five years ending with 1983, the farm corps carried on the Ohio River System increased by 38.5 percent; on other rivers in the country only 33.0 percent. The new Tennessee-Tombigbee connection to the Gulf enhances the Basin's position, and our recommended improvements, particularly at the Olmsted site and on the Tennessee River, will carry forward the favorable prospects for Ohio Basin farming.

Other Industries and Commodities

I have given special attention to the preceding six industries because they are the largest shippers and receivers on the system. But, commercial navigation on the Ohio and its tributaries serves many others. The Corps of Engineers lists 95 commodity groups carried on these rivers.

Building materials, especially aggregates, cement, and limestone, are of great value, notably to local road and street maintenance, and thus to local government finances. The Ohio River Systems carries many thousands of tons of pulpwood, pulp, and newsprint. Non-ferrous ores, metals, and alloys are an important element in river commerce. I have given attention to farm crops. In addition, major waterborne tonnages of grain mill products, processed feeds, tallow, flour, seminola, vegetable oils, sugar, and molasses enhance farm income. Altogether, in 1983, 29.7 million tons of miscellaneous commodities not directly affecting the six industries discussed were carried on the Ohio and its tributaries.

In the evaluation in earlier times of navigation projects now completed and in service, movements then of lesser volume were overlooked, but, with the passage of time, evolved into major tonnages. In the long view into the Twenty-First Century, similar growth of unexpected commodity composition will almost certainly develop.

III. THE OHIO VALLEY PROGRAM AS A FEATURE OF REDUCED FEDERAL EXPENDITURES FOR IMPROVEMENT OF THE U.S. INLAND WATERWAYS

We are keenly aware of the urgency of budgetary restraint in Fiscal 1987 as well as the objective of balancing the Federal budget by Fiscal 1991. Our recommendations are thoroughly in harmony with this objective. Indeed, we present them as a component of a substantial reduction in general fund expenditures.

Decline Under Way in Federal Inland Waterway Expenditures

In real terms, the total programmed expenditures for inland waterway modernization throughout the United States are already in a long-term process of reduction. Stated in dollars of 1985 purchasing power, the Federal Government expended from general revenue funds for new work on the U.S. inland waterways during the five years, 1971-1975, an average of $505 million per year. For the five years, 1981-1985, this was down to $384 million per year.

Prospective Lower Level of New Work Expenditures

With the expeditious progress we recommend in the Ohio Valley, and accompanied by corresponding progress on feasible projects elsewhere in the country, the expenditure from general revenue funds may be expected to decline still more. The highly comprehensive and authoritative National Waterways Study issued by the U.S. Army Engineers Water Resources Support Center names 41 shallow draft waterway projects throughout the country on which work is currently needed or soon will be needed to relieve costly congestion. All the Ohio Valley projects we recommend are included in this category.

The total cost estimate for the 41 projects in 1985 dollars is $6.7 billion.[10] While the study does not specify a time span for this work, a terminal date of 2015 would appear the earliest practically achievable, that is, 30 years from now. In 1985 dollars, this amounts to $223 million per year, down from the $384 million of 1981-985.

The Inland Waterways Trust Fund

But, even more to the point, a substantial portion of this $223 million average need not come from general revenue funds. Ever since 1980 our industries have been paying a waterways fuel tax, now accumulating in the Inland Waterways Trust Fund and available to the Congress for waterway rehabilitation and new construction. The Department of the Treasury projects a balance in this Fund at the beginning of Fiscal 1987 of $257.6 million with collections into the Fund thereafter in the range of $68.0 to $77.0 million per year.

It becomes obvious that the Inland Waterways Trust Fund can well sustain substantial charges for new work and rehabilitation, reducing the yearly outlays from general revenue funds from the projected $223 million average to a sum well below $200 million (in 1985 dollars). For example, if 20 percent of the new work expenditures were to be financed from the Fund, the outlays from general revenue funds would average only $178 million per year. In comparison with the $384 million average from 1981 to 1985, this is more than a 50 percent reduction.

There is a real prospect that the Trust Fund's potential contribution may be markedly enlarged. Under the agreement reached in June, 1985, between the Director of the Office of Management and Budget and a number of key Senators, the fuel tax rate would be raised by one cent per gallon annually between 1988 and 1998 to 20 cents per gallon. We do not argue here either for or against this increase. Neither do we hold that our example of a withdrawal of 20 percent of new work expenditures is the right measure. But, whatever resolution may be reached on these questions, it is obvious that our recommendations fall in a context of a very large reduction in expenditures of general revenue funds for modernization of the inland waterways.

Magnitude of the Ohio River System in the National Waterways Program

The Ohio River System is a major sector of this prospect. The system has a navigable length of 2,582 miles. It carries 35 percent of the nation's total inland waterborne tonnage. This tonnage is nearly one-half of the total inland tonnage on the Mississippi River and all its tributaries combined. The waterborne freight on the Ohio and its tributaries is critical to extensive sectors of major American industries: coal mining, electric energy, steel production, petroleum fuels, chemicals, and farming, among others.

Much of the Ohio River's commerce moves also on connecting waterways. Well over one-half of all the tonnage moving on the Mississippi at its confluence with the Ohio originates or terminates on the Ohio and its tributaries. This commerce traverses all reaches of the Upper and Lower Mississippi, the Illinois, the Missouri, the Arkansas, the Gulf Intracoastal, and other waterways connecting with the Mississippi. Ohio River commerce will prove a critical element in the success of the Tennessee-Tombigbee connection with the Gulf Coast. The high costs of congestion and obsolescence on the Ohio thus communicate into impaired traffic on these connecting streams and deprive the public of the full benefits of past Federal investment in their improvement.

We must emphasize, therefore, that the Ohio River program is a central and comprehensive sector of any undertaking towards modernization of the inland waterways system of the United States.

The Waterways Fuel Tax as a Dedication to a Waterways Improvement Program

We trust that your committee will agree that it would be grossly unjust to reduce or defer new work on the inland waterways for budgetary reasons while continuing to collect the existing waterways fuel tax. This tax was imposed explicitly to facilitate financing of such new work. Since the beginning of the 1980's it has been the policy of the Federal government with respect to taxation in general, earlier to reduce tax rates, and now to refrain from increasing them. Yet, on the inland waterways from 1980 to 1985 the fuel tax was increased on the schedule specified in the 1978 statute from zero to 10 cents a gallon. This conspicuous and burdensome exception to general tax policy can be justified only on the assumption that, on economically feasible waterway projects, work proceed expeditiously without deferral for budgetary reasons. Otherwise, the objective of the fuel tax would be defeated. The affected industries would be subjected to the double burden of the waterways fuel tax, on the one hand, and, on the other, to the high cost of waterways neglect consequent on reduced Federal expenditure.

Initial Low Level of Expenditures in the Ohio Valley

For the near term between now and 1991, the outlays in the Ohio Valley will be at the low levels of planning, engineering, and initial construction. For Fiscal 1987, it will be noted that, apart from continued rehabilitation of the Dashields structure, those projects for which feasibility has been established will be only in the Planning and Engineering stages or in the process of land acquisition.

After 1987, even after construction will probably have been initiated on the Monongahela and at Gallipolis on the Ohio, the expenditures will remain relatively small. The Army Corps of Engineers estimates that, during the first four years of construction, the outlays at Gallipolis will have accumulated to only some 20 to 25 percent of the total construction cost. Construction of most of the other recommended Ohio Valley projects cannot begin until the early 1990's, and, even with respect to those which will be under construction by 1991, the work will still be in the less costly early stages.

Thus, in both the long-term and short-term views, our recommendations contemplate reduced expenditure of general revenue funds on the inland waterways and are thus entirely harmonious with the objective of budgetary restraint and a balanced Federal budget by 1991 and thereafter into the Twenty-First Century.

IV. INLAND WATERWAY EXPENDITURES AS AN INVESTMENT

It is critically important that Congress recognize that, in their budgetary impact, expenditures on modernization of the inland waterways are not an expense but an investment. If such expenditures were merely for current services or benefits to be realized only within the year, however meritorious these benefits might be, such expenditures would constitute a draw-down on the national estate. But, this is not the case. Federal expenditures for long-lived capital improvements in the productive infrastructure of the national economy represent, not a draw-down on the national estate, but an enhancement. Waterway projects are emphatically among these.

Congress authorizes and funds waterway projects only on the basis of advance professional in-depth studies of economic feasibility. With the completion of a waterway project so justified, the nation is thus richer, not poorer, by virtue of the expenditure. The economic feasibility studies of some of the Ohio Valley projects have not yet been completed, but I shall refer to two to illustrate the opportunity for immense enlargement of the nation's wealth and future prosperity they represent.

Gallipolis

In 1987, the existing locks and dam structure at Gallipolis, Ohio, on the Ohio River will be fifty years old. This structure is badly deteriorated, dangerous to navigation, and of inadequate capacity. Based on comprehensive study supplemented by contracted analyses by consulting agencies, the Army Corps of Engineers recommends rehabilitation and supplementary construction at the site, providing a modernized facility, highly reliable, and of dimensions adequate to the projected rising volumes of traffic. The recommended plan would not only provide the national economy a return on the investment of 7 5/8 percent annually over the project's 50-year life. In addition, over and above the 7 5/8 percent return, it would yield annual economic benefits of $12.40 for each $1.00 of Federal costs. The costs, so identified, are comprehensive, including both capital charges and operation of the facility.

Olmsted

Again, near the mouth of the Ohio River, downstream from its confluence with the Tennessee, are two lock and dam structures identified as #52 and #53. They were completed in 1928 and 1929 and later supplemented by temporary locks, one of which has already outlived its design life. Both structures are obsolete, badly deteriorated, and congested. On the basis of a thorough feasibility study, the Army Corps of Engineers tentatively recommends their replacement with a single new structure at Olmsted, Illinois, of modern design and capacity adequate for projected traffic demand. In its study, the Corps set a target return of 8 3/8 percent on the Federal investment, to be realized yearly over a projected 50-year service life.

Not only does the Olmsted project meet the 8 3/8 percent target, but, in addition, it offers massive national economic benefits. Because the existing dams are of wicket design, permitting open river operation during much of the year, the Corps evaluated the alternative of allowing the present works to deteriorate to the point of complete retirement and non-replacement. In comparison with this alternative, the Olmsted project promises, over and above the 8 3/8 percent return, annual benefits exceeding $25.00 for each $1.00 of costs.

On the other hand, as against the alternative of rehabilitation and continued operation of the existing works, the Olmsted project promises, in addition to the 8 3/8 percent return, annual benefits of $3.00 for each $1.00 of incremental cost - cost in both instances comprising both capital charges and operations and maintenance. Future inflation, of course, would greatly increase these ratios of benefits to costs in dollar terms.

Forms of Income Enhancement

Thus, the waterway projects we recommend are a capital investment in the infrastructure of the national economy and a foundation on which private venture will prosper and grow. The benefits we have cited will take various forms, including rising investment opportunity in basic industries, more jobs, enhanced farm income, reduced fuel prices for homes, factories, and motor vehicles, and lower electric bills. Through the process of respending, sustained and rising personal incomes in the Ohio River Basin exert a multiplier effect throughout the national economy. For each project, these enhancements of the national income will persist, year after year, over a projected service life of 50 years.

Enhancement of Government Revenues

Rising government revenues should be counted among the benefits. For state and local governments, higher incomes and employment, with their associated strengthening of property values, enlarge the tax base. For the Federal Government, there would appear little doubt that the national income enhancement attributable to a soundly-conceived waterway project will generate an increase in Federal tax revenues over 50 years of service life much in excess of the one-time investment in the project's construction.

For example, according to the 1982 feasibility study by the Corps of Engineers, the recommended plan of improvement at Gallipolis will constitute a Federal investment (including interest during construction) estimated at $313.0 million. The net benefits of the project will consist mainly of an increase in taxable incomes. Because these benefits are to be realized over 50 future years, they have been discounted in the feasibility study at 7 5/8 percent per year. After this discounting, the residual net benefit at Gallipolis has a present value of $127.3 million per year, or about $6.3 billion over the 50-year service life.

While the resulting increment to Federal revenues cannot be precisely measured, some indication of its magnitude may be found in the fact that Federal revenues from taxes on individual incomes average about 15 percent of the incomes so taxed. Fifteen percent of the projected $6.3 billion income increment attributable to the Gallipolis project is $945 million, about three-fold the investment.

Some may protest that this is not persuasive because the investment has to be made in the early future, whereas the increment to revenue will be realized only in a future much more distant (that is, over the 50-year service life). Such protest would be invalid. The $6.3 billion income increment of the project is the residue of a much larger sum, fully discounted for its futurity at the rate of 7 5/8 percent for each of the 50 years. The associated revenue enhancement, estimated roughly at $945 million, is thus a present value, directly comparable with the $313 million investment.

In short, we are recommending with respect to Gallipolis that the Federal Government make an investment of $313 million in a property which, upon completion, will have a revenue-enhancing value to the Government in the general neighborhood of $945 million. The other projects we recommend are of the same character. It is hard to imagine a proposal more harmonious with a Federal policy of budgetary thrift.

Our recommendations for Federal expenditure, therefore, do not contemplate any drain upon the Government's or the nation's resources, but rather for their enhancement and for a long-term strengthening of the national economy and an investment in a future increase in Federal revenues.

Recent Neglect and Obsolescence of the U.S. Inland Waterways

On the inland waterways, the Federal Government has been letting this kind of investment opportunity pass it by. During the five years, 1966-1970, the Corps of Engineers expended in current dollars an average of $249.8 million per year on new work. During the five years, 1981-1985, the corresponding yearly expenditure was $358.4 million, an increase of 43.5 percent. But. meanwhile, inflation had boosted construction costs more than four-fold, so that actual new work performed had diminished drastically. Stated in dollars of constant purchasing power, outlays for new work during the 1981-1985 period were only 42.3 percent of what they had been from 1966 through 1970. In other words, the program had been cut by more than half. Chart I, herewith, presents the overall picture of this deterioration from 1962 through 1985.

The pressures of economic growth upon the choke points requiring relief cannot be sustained indefinitely. Between the 1969-1974 period and that of 1979-1983, the ton-miles of freight carried on the U.S. shallow-draft inland waterways increased by 38.0 percent. But, Federal expenditures on new work, stated in dollars of constant purchasing power, went down 21.4 percent. If these opposing trends continue, mounting congestion at the aging works will continue to raise costs, retard growth, and withhold from American industry much of the efficiencies of a balanced, modernized transportation system.

On the Ohio River System, seven of the existing works on which we recommend action towards improvement were completed in the 1920's. Three were completed in the mid-1930's, and one in 1944. Two temporary installations, with a 15-year design life, were completed in 1969 and 1980, respectively. On the nation's highways we do not expect modern traffic to move via the mud and gravel surface of the old Lincoln Highway. On the railroads, the steam locomotive has been retired. Likewise, on the inland waterways, the pressures of modern industrial practice and magnitude call with rising insistence for release from the constraints of the bygone technology of the Coolidge and New Deal eras.

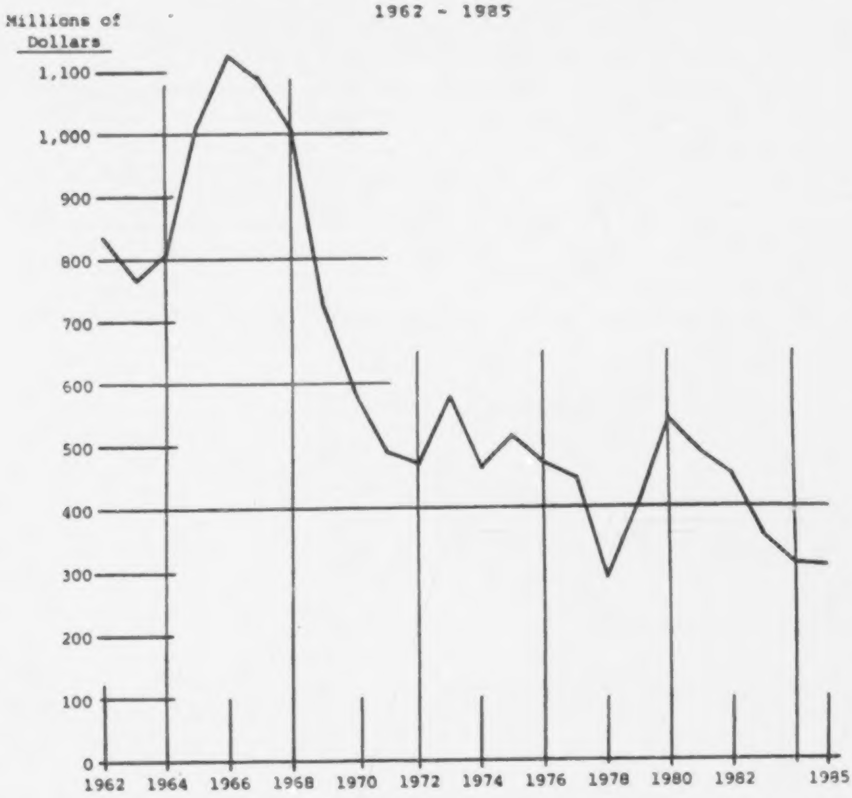
Building for the Nation's Future

Our recommendations with regard to navigation improvements on the Ohio River System, as an essential feature of the nationwide program for waterways modernization, are entirely harmonious with progress towards a balanced Federal budget between now and the early 1990's - emphatically so with the possibility of supplementary appropriations from the Inland Waterways Trust Fund. Expenditures for a modernization of the Ohio Valley navigation system will constitute a revenue-producing investment in renewed strength of our major industries and agriculture in international competition and in enhanced Federal revenues over the long term.

CHART I.

U. S. SHALLOW-DRAFT INLAND AND INTRACOASTAL WATERWAYS FEDERAL EXPENDITURES FOR REHABILITATION AND NEW CONSTRUCTION IN DOLLARS OF 1985 PURCHASING POWER

1962 - 1985



SOURCES: U. S. Dept. of the Army, Corps of Engineers
Engineering News-Record, General Construction Cost Index

In his farewell address, President Eisenhower spoke as follows:

> "As we peer into society's future, we - you and I, and our government - must avoid the impulse to live only for today, plundering for our own ease and convenience, the precious resources of tomorrow. We cannot mortgage the material assets of our grandchildren without risking the loss also of their political and spiritual heritage."

Those who improved the nation's inland waterways during the first half of the Twentieth Century anticipated these words for our benefit, and, having heard them, we of the present generation can do no less for the generations for the Twenty-First Century.

FOOTNOTES
to
Testimony Presented by:
Kenneth R. Faerber
Commissioner, West Virginia Department of Energy
and
Director, DINAMO/OVIA

[1] The nine navigable waterway states of the Ohio Valley are Alabama, Illinois, Indiana, Kentucky, Mississippi, Ohio, Pennsylvania, Tennessee and West Virginia.

[2] The NCA projections were for total U.S. production, taken here for the Ohio River System at the same percentage to the national total as that in 1983. (see Journal of Commerce, New York, February 27, 1986, page 9A)

[3] The mine value is the weighted average of the total cost production of Pennsylvania, West Virginia, and eastern Kentucky in 1983 of $33.08 per ton. The output per miner-year is likewise the weighted average of these three state areas at 3,023 tons per miner-year. (See U.S. Department of Energy, Coal Production, 1983, pages 30 and 58.)

[4] American Electric Power Company, Inc., 1983 Report to Shareholders, Columbus Ohio, 1984, page 5.

[5] Steel industry expenditures are at average rates per ton of steel nationwide as reported by the American Iron and Steel Institute, Annual Statistical Report, 1983. Prices are as quoted by individual steel companies on private industry.

[6] Wall Street Journal, March 4, 1986, page 25.

[7] These figures are at U.S. averages per ton shipped as reported by the U.S. Department of Commerce, Census of Manufacturers.

[8] The four states are Illinois, Indiana, Kentucky, and Ohio.

[9] Quantity moved as reported by the U.S. Department of the Army, Corps of Engineers, Waterborne Commerce of the United States, 1983, Part 5, Section 2. Values as reported by the U.S. Department of Agriculture, Agricultural Statistics 1984.

[10] U.S. Army Engineer Water Resources Support Center, Institute for Water Resources, National Waterways Study - Evaluation of Alternative Future Strategies for Action, Ft. Belvoir, VA, May, 1982, pages 100 and 129.

PREPARED STATEMENT OF SENATOR GLENN

Senator JOHNSTON. We have word that Senator Glenn will be submitting a statement for inclusion in the record. His statement and a statement from the Ohio Department of Natural Resources will be placed in the record at this point.

[The statements follow:]

STATEMENT OF SENATOR GLENN

I would like to take this opportunity to seek your support for the inclusion of several important Ohio projects in the FY 1987 Energy and Water appropriations bill.

Cleveland Harbor

On behalf of myself, the greater Cleveland community, and the State of Ohio, I would like to thank you for your support in including Cleveland Harbor in the 1985 Supplemental Appropriations bill. I would like to provide an update of progress on the Cleveland Harbor project, and to request your continued assistance in moving this project forward.

I am requesting your consideration for the remaining portion of the $36 million in federal funds required for urgent repair and rehabilitation of Cleveland's port facilities. Funds requested for FY 1987 would be used for repair, channelization, construction and rehabilitation of protective structures at Pier 34 and surrounding areas, work on the east harbor entrance, correction of navigation impediments at the Columbus Lift Bridge over the Cuyahoga River, and actions related to sheeting and bulkheading of certain portions of the Cuyahoga River.

The Cleveland Harbor project represents a unified effort by the city of Cleveland, the State of Ohio, and congressional officials. Since passage of the 1985 Supplemental Appropriations bill, we have continued to work closely with the House Public Works and Transportation Committee, the Senate Environment and Public Works Committee, and the Army Corps of Engineers to obtain appropriate language in H.R. 6, S. 1567, and the conference bill and report. As part of this effort, I discussed the details of the Cleveland project during Senate consideration of S. 1567, and I am enclosing a copy of my statement for your further information.

In response to these actions, the Army Corps of Engineers is working with state and city officials on a cost-sharing agreement for the Cleveland project, and indicates it expects to complete such an agreement in a few weeks. We, in turn, have agreed to provide the non-federal share at the levels called for in S. 1567 or the eventual formulas worked out in the conference on H.R. 6. The State of Ohio has committed $8.4 million to the project, local foundations have contributed private sector funds, and the City of Cleveland is preparing a contribution.

Your help in earmarking funding for Cleveland Harbor improvements in FY 1987 is urgently needed to assure that funds provided by the State of Ohio and the Cleveland interests are matched with Corps action as soon as possible. Such an appropriation will allow all parties to begin the overall project on a task-by-task basis. As repairs are delayed, costs escalate. Hence, a task-by-task approach helps contain the federal cost of the project.

In requesting these funds, I recognize that federal funding is limited, and that you are considering a number of major funding requests. Understandably, projects of greatest national significance are assigned priority in the appropriations process. Cleveland plays an important role in the nation's economy. Located within a single overnight truck trip of the Cleveland Harbor are the following:

- 14 of the top markets of the U.S. and Canada;
- 63 percent of U.S. manufacturing shipments and 66 percent of U.S. manufacturing establishments;
- 79 percent of the top 500 U.S. industrial corporate headquarters;
- 75 percent of the population of Canada and the U.S.;
- 55 percent of the U.S. population and households;
- 56 percent of this country's buying income.

Clearly, the federal investment in the Cleveland Harbor is in the national interest and will return many times its value to the U.S. economy.

The Cleveland port is essential to national economic recovery and to our efforts to increase the competitiveness of American products overseas. This is demonstrated by the fact that shipments through the port have increased for the past four years, total tonnage through the Port increased 19 percent last year, and general cargo tonnage increased 9 percent last year. The Port is also developing significant export activity, shipping 72,000 tons of scrap products last year.

These statistics demonstrate that the Cleveland Port is making substantial progress, but continued progress depends on capital improvement. Rehabilitation of commercial navigation facilities is a key part of our overall economic strategy for northeastern Ohio.

The efforts of Cleveland's public and private sectors have helped improve the area's economy. The city of Cleveland, with no public assistance, brought itself back from the verge of bankruptcy to a sound fiscal basis. In fact, their bond rating is now B-A-A. Over $1 billion in private sector investment has taken place within one mile of the Cleveland Harbor since 1980. New businesses and jobs have been created, and both small and large businesses are thriving.

A priority of this effort is to ensure safe, up-to-date, and competitive freight-moving capacity. Effective intermodal transfer together with development and maintenance of all transportation modes are critical. The Midwest must participate in this trend or be left behind. For this reason, Ohio has invested millions of dollars to upgrade, rehabilitate, and coordinate its highway, railroad, air freight, and waterborne traffic capacities. But we can't do it all ourselves. We urgently need federal investment to assist this effort.

The action you took last year to include the Cleveland Harbor project in the 1985 Supplemental Appropriation was a major breakthrough for northeast Ohio's multi-modal improvement program. It has given a significant boost to our economic recovery strategy. Now we need your help again in taking the next step -- to begin work at Cleveland Harbor.

Maumee Bay State Park

Maumee Bay State Park is a multi-purpose facility located on the south shore of Lake Erie near Toledo, Ohio. The high water levels we have experienced on Lake Erie over the past 16 years threaten the park's shoreline. It is essential for us to provide shoreline protection for Maumee Bay State Park in order to ensure its continued use and future development.

The Interim Feasibility Report for this shoreline protection project was completed in late 1983 and recommended a protective sand beach stabilized by rubblemound, offshore breakwaters, and a rubblemound revetment. Planning and engineering funds were included in the FY 1985 Energy and Water Appropriations Bill, while authorization for the project is included in both H.R. 6 and S. 1567. While small differences exist over the cost sharing provisions, the State of Ohio has expressed a willingness to negotiate on this issue.

The Army Corps of Engineers and the Ohio Department of Natural Resources (ODNR) have worked closely on this project. The Corps has used initial funding to finalize a "Reaffirmation Report" on the overall shore protection project and will complete its survey work, aerial mapping, and preliminary design on the western portion of the site during FY 1986. ODNR plans to begin construction on the eastern revetment part of the project in June. In addition, the Corps and ODNR have already developed a tentative Section 215 agreement for reimbursement or applied credit for work completed by the state.

The cost-benefit ratio is estimated by the Corps to be 1:3.4. Besides shoreline protection, overall park investment will create 2,000 new jobs and generate $3 million per year in revenues.

The Corps' schedule calls for final preconstruction planning in FY 1987, which includes preparation of technical reports and the General Design Memorandum. However, no funds were included in the President's FY 1987 budget request to allow the Corps to complete this final phase of preconstruction planning. Therefore, I respectfully ask the Committee to provide an additional $250,000 for completion of the General Design Memorandum. Once this phase is completed, I expect construction to begin in FY 1988.

Reno Beach/Howard Farms

The Reno Beach/Howard Farms flood control project on Lake Erie is also necessary due to damage caused by high water levels on the Great Lakes. This community has historically been subject to storm induced flooding. Flood control projects were erected by local interests between 1902 and 1943. Since that time, the State of Ohio, the Corps, and local interests have made patchwork repairs, but a permanent solution has not been provided. This is despite the fact that a flood control dike designed to provide permanent protection was authorized by Congress in 1948! Post-authorization planning did not begin until 1980 when funding was first provided. At present, the General Design Memorandum is complete and the plans and specifications have been prepared by the Army Corps of Engineers Buffalo District.

However, the President's FY 1987 budget request does not include a construction start for this project. Instead, due to high lake levels, the Corps has proposed a construction start under the Advanced Measures program. From the State of Ohio's perspective, this plan would assist a smaller area at a much larger cost. While the Governor has stated that Ohio is willing to provide half of the non-federal share of the Advanced Measures project, the state could provide the entire non-federal share of the permanent project. I question the logic of approving another temporary flood control measure while the authorized permanent project would provide substantially greater benefits at a lower non-federal cost.

Therefore, I respectfully request that the Committee approve a $1 million construction start for this project for FY 1987. The total project cost is estimated at $5.6 million. The State of Ohio has expressed its willingness to provide half of the non-federal share, if a construction start is approved.

Gallipolis Locks and Dam

The effort to replace and modernize the Gallipolis locks and dam will be boosted by the $256 million authorization in H.R. 6 and S. 1567. I sponsored legislation to authorize this work several years ago and I am pleased that our efforts are finally paying off. The existing facilities are obsolete after nearly 50 years of service and present a serious danger to commerce on the Ohio River. Even when the locks are operating at full capacity, Gallipolis is a bottleneck. When there is an accident, which is a common occurrence, the delays can last for days or even weeks. The funding for this work will correct a worsening condition on the Ohio River transportation corridor and benefit the commerce of several states.

In FY 1987, a great deal of work must be done to move the Gallipolis project closer to completion. The President's FY 1987 budget includes $3.5 million to complete the plan and specifications for the Gallipolis locks and dam replacement. Additionally, this money will be used for continued real estate acquisitions for the project. The State of Ohio supports the Administration's request. Therefore, I respectfully ask the Committee to provide $3.5 million for the continuation of this vital modernization program which has enjoyed support in both the House and the Senate.

Lorain Harbor

The Lorain Harbor is authorized for $5.5 million in improvements according to both the House and Senate water resource bills. Lorain has suffered from severe economic distress in recent years. This authorization sends a message that we see brighter times ahead for Lorain and wish to invest in its economic future. The proper maintenance of Lorain Harbor, along with the development of the Lorain Small Boat Harbor which we funded in October of last year, will help the economy of Northeastern Ohio prosper.

In FY 1987, we must continue the planning and engineering necessary for navigation improvements at Lorain. To this end, the Administration's FY 1987 budget includes $200,000, an amount supported by the State of Ohio. I respectfully request that you provide this $200,000 for the necessary revitalization of Northeastern Ohio's infrastructure. This project has enjoyed the support of Congress in the past and is worthy of funding for its continuation.

Geneva-on-the-Lake Small Boat Harbor

In its FY 1987 budget, the Administration requested $1.5 million for second-year construction of the Geneva-on-the-Lake marina project. The State of Ohio supports this request. The Army Corps of Engineers has been authorized to spend approximately $4.4 million on this project, while the State of Ohio has committed $8 million for harbor construction and shoreside improvements. The building of this marina is very important to the people of Geneva and Northeastern Ohio. It will provide job opportunities to a region of the United States which continues to suffer high unemployment, and it will also serve as a much-needed harbor of refuge for boats which are often caught in violent storms on Lake Erie. At present, there is a 29 mile stretch of Ohio coastline with no port refuge.

In FY 1987, the Army Corps of Engineers will need funds to dredge the basin and construct breakwaters in Geneva-on-the-Lake Harbor. I respectfully ask the Committee to provide $1.5 million for this project's continuation, which is of great importance to the State of Ohio.

I appreciate the Committee's consideration of these priorities for FY 1987 appropriations.

STATEMENT OF JOSEPH J. SOMMER, DIRECTOR, OHIO DEPARTMENT OF NATURAL RESOURCES

I am aware the Energy and Water Development Subcommittee of the Senate Appropriations Committee is considering the proposed fiscal year 1987 budget for water resource projects. I would like to bring to your attention particular projects of special interest to Ohio. These include Gallipolis locks and dam replacement and rehabilitation, improvements for Cleveland and Lorain Harbors (including the proposed pier 34/Inner harbor development at Cleveland), Geneva Harbor development, erosion protection for Maumee Bay State Park, and flood protection for Reno Beach/Howard Farms.

Our office maintains a close liaison with the four district offices of the Corps having responsibilities for these projects in Ohio. We work cooperatively with the Corps through the planning, design, and construction phases of water resource projects in our State. The Corps Civil Works Program has been, and continues to be, very important in addressing the water resource needs in Ohio. Thus, we seek their continued participation in overseeing the previously mentioned projects.

I appreciate the cooperation of your subcommittee appropriating funds for Ohio water resource projects. Please consider the Ohio interest in your final fiscal year 1987 budget determination.

EXCERPT FROM CONGRESSIONAL RECORD OF MARCH 26, 1986

Mr. GLENN. Mr. President, I realize that bringing up any new amendments would be futile in this environment. I realize that the floor managers of the bill have made it clear that they will strongly oppose any floor amendments to the bill, adding projects that have not cleared the whole Corps of Engineers process. Realizing what the situation is, I will not offer amendments for the matters about which I wish to speak briefly. But I hope that with what I put forwrd here, the conferees on this bill will look favorably upon the House position in conference on these two measures—which, I might add, comply completely with what the distinguished Senator from New Mexico and the distinguished Senator from New York just discussed about users paying a portion, and local political entities, be they State, county, municipal, or whatever, sharing in the burden of whatever the project may be.

The two items I wish to bring to the attention of the floor managers and other Senators and those who will be conferees on this bill are two that affect my home State of Ohio, and they are two in which the State and local communities are willing to share in the burden.

First, I wish to discuss briefly the Cleveland Harbor project. It is a commercial navigation project.

The components stress the importance of river, as well as harbor, actions necessary to correct navigation hazards, and foster safe, profitable commercial shipping through the Port of Cleveland. I urge my colleagues to adopt the House provision in conference.

The Cleveland Harbor project, for which $36 million in Army Corps of Engineers participation is requested, consists of the following actions:

First. Deepening and widening of the East Harbor entrance. This provision, for $4.3 million, is included in the leadership amendment to the bill and has a chief's report from the Corps of Engineers.

Second. Bulkheading and other necessary repairs to pier 34.

Third. Sheeting, bulkheading, and necessary repairs to docks 20, 24, 32, and 36.

Fourth. Construction of a basin south of pier 34, with related protective structures and approach channels.

Fifth. Removal or correction of navigation impediments at specific bridges crossing the navigation channel of the Cuyahoga River, and correction of "bow thruster" and other infrastructure problems at Cleveland Harbor.

Sixth. Report of Cuyahoga River bank—sheeting, bulkheading.

Seventh. Sheeting, bulkheading, and necessary repair of approach to the U.S. Coast Guard Station in Cleveland Harbor.

Total cost of the Cleveland Harbor project is $65.3 million, with participation, which was just discussed on the floor, as follows: Army Corps of Engineers, $36 million; State of Ohio, $8.45 million; local and other, $20.85 million.

A Federal investment of $36 million is fully appropriate and in the national interest when you consider the importance of the Cleveland area to our Nation's economy. The Cleveland area is the ninth largest industrial market in shipments nationwide, shipments for the seven-county Cleveland area average more than $33 billion annually, and two-thirds of U.S. industrial production is located within 600 miles of Cleveland.

I also note that startup funds for the Cleveland project were included in the 1985 supplemental appropriation bill. The House water resources bill, H.R. 6, authorizes up to $36 million for Cleveland Harbor.

The Cleveland project has the unanimous support of the public and private sector. This support for the project is backed up with financial commitments from all parties. Local and State participants are prepared to act on a cost-sharing agreement for the project as soon as we give them the go-ahead in this authorization bill.

The components of the Cleveland Harbor project have been studied by the Corps of Engineers and are referenced in various corps documents related to Cleveland Harbor and the Cuyahoga River. In fact, some bridge-related corps recommendations date back to 1937.

The Cleveland project includes action by the corps to prepare a safe harbor basin, at a total cost of $5.1 million. Federal share for corps action on the basin is only $3.7 million. The need for such safe harbor is referenced in both corps and Coast Guard studies related to the frequency of sudden and severe weather on Lake Erie. The State of Ohio has committed funds to develop the recreational potential of the land surrounding the basin—corps participation is limited to construction of the safe harbor basin, related protective structures, and approach channels only.

Certainly any shipping facilities of the size and economic importance of Cleveland Harbor warrants a $36 million Federal sharing of the cost or investment, as I view it.

So I urge my colleagues when they consider the House provision in conference that they look with favor upon this because I believe it is one that is most worthwhile and one that benefits us nationally as well as just the State of Ohio and the Cleveland area.

Mr. President, the second element of consideration for the conference that I wish to address briefly, is the Lake Milton Dam near Youngstown, OH. The Lake Milton Dam is in Mahoning County. Shortly, unless emergency repairs are done, that dam must be breached and the lake drained, and that lake has been there many, many years. The lake must be drained unless these emergency repairs are done.

The rehabilitation of this dam is of utmost importance to the area around Youngstown and Mahoning County.

I do not have to recount here today the economic difficulties that have beset that part of our State, that part of our Nation, as our steel mills have gone down and some single-industry towns have come upon hard times.

Mr. President, this is a beautiful recreation area. It is a tourist attraction. Other businesses and economic development can occur around that area which can help the northeast Ohio recovery.

The total cost of repairs for the dam is estimated as $6.75 million but, lest the managers of the bill take too much umbrage to that, let me say that there is significant State cost sharing for this project. The State of Ohio will contribute $4.3 million or 63 percent of the cost of the repairs. What we need is Federal authorization for the gap of only $2.5 million.

Repairing the dam is cost effective. The estimated cost of reconstructing a structure of this size we estimate would be more than $100 million today.

In the House bill legislation is provided to take care of this problem. There is a loan in the House bill. We hope that that could be perhaps changed into a grant in the conference committee. But this is a beautiful area. It is of benefit to the economically devastated area of Youngstown and northeastern Ohio.

Mr. President, I urge my colleagues and hope the conferees on the conference committee that we will be in touch with will look with great favor on the legislation already in the House bill for this Lake Milton Dam as well as the Cleveland Harbor project that I have already mentioned.

Mr. President, today we take an important step forward in continuing the development of this Nation's waterways and flood control efforts. With the passage of S. 1567, the Senate has ensured that America will develop and maintain a modern infrastructure capable of handling the demands of our modern industrial society. And I am proud to say that Ohio will share in the benefits of this far-reaching and long overdue program.

S. 1567 contains funding for a number of projects of great importance to my State of Ohio. Maumee Bay State Park will receive $15.8 million for shoreline protection. The potential benefits of this expenditure are several: Industrial development, increased job opportunities in a depressed area, expanded recreation facilities, and environmental protection. As such, the project will substantially enhance the quality of life in the area on the south shore of Lake Erie near Toledo.

This bill also authorizes $256 million to replace and modernize the Gallipolis locks and dam. I sponsored legislation to authorize this work several years ago and I am pleased that our efforts are finally paying off. The existing facilities are obsolete after nearly 50 years of service and present a serious danger to commerce on the Ohio River. Even when the locks are operating at full capacity, Gallipolis is a bottleneck. When there is an accident, which is a common occurrence, the delays can last for days or even weeks. The funding for this work will correct a worsening condition on the Ohio River transportation corridor and benefit the commerce of several States.

The Lorain Harbor will receive $5.5 million for necessary improvements. Lorain has suffered from severe economic distress in recent years. The proper maintenance of Lorain Harbor, along with the development of the Lorain Small Boat Harbor which we funded in October of last year, will help improve the economy of the Lorain area.

The Cleveland Harbor will be authorized to receive $4.3 million for deepening and widening of the East Harbor entrance. These improvements are necessary to correct navigation hazards and foster safe, profitable commercial shipping through the Port of Cleveland.

This bill provides additional authorization for the comprehensive plan for the development of the Ohio River Basin. This project was originally authorized in 1936 and has proven extremely valuable in building a viable Ohio River transportation system. I am pleased to see that this important work will continue.

This legislation includes severval important flood control projects for Ohio. The citizens of southerwestern Ohio will be happy to see a substantial Federal effort to control the flooding of the Miami and Little Miami Rivers. S. 1567 sets aside $23.3 million to provide relief of those who have been plagued with property damage resulting from high waters on these rivers over the years.

In addition, the citizens of North Chillicothe, OH, will receive $10.7 million to control the flooding from the Scioto River. The bill also includes authorization for a flood control project at the Hocking River, at Logan and Nelsonville, in the amounts of $7.7 million and $8.0 million respectively.

As the cochairman of the Great Lakes Task Force for the Northeast-Midwest Senate Coalition, I also want to note that S. 1567 contains several provisions of significance to the Great Lakes region. The legislation authorizes five Great Lakes harbor improvement projects, including Lorain Harbor and Cleveland Harbor in Ohio; Duluth-Superior Harbor, in Minnesota and Wisconsin; Grand Haven Harbor, in Michigan; and Monroe Harbor, in Michigan.

Title VIII, "Navigation Taxes," includes an important provision for Great Lakes shipping interests; Rebate of St. Lawrence Seaway tolls paid to the St. Lawrence Seaway Department Corporation. Also included in title VIII is a provision directing the Secretary of State, in consultation with the Secretary of Transportation, to initiate negotiations with the Canadian Government with the objective of reducing or eliminating all tolls on the international Great Lakes and the St. Lawrence Seaway. The ultimate elimination of seaway tolls, both Canadian and American, would make the ports of the Great Lakes region competitive, for the first time, with ports on the other three U.S. coastlines. These two provisions in title VIII constitute an important first step toward elimination of seaway tolls.

S. 1567 also establishes a harbor maintenance trust fund for the purpose of providing operation and maintenance for commercial channels and harbors. It authorizes 100 percent of the eligible operation and maintenance costs of the St. Lawrence Seaway Development Corporation to be appropriated out of this harbor maintenance trust fund.

Mr. President, we have waited a decade for a new water resources authorization bill. I urge my colleagues to adopt this legislation.

Mr. MOYNIHAN. Mr. President, may I thank the distinguished Senator from Ohio for his very cogent and careful remarks.

It is the case that we have not been able to accept any substantive amendments but we will go to conference and we will have carefully in mind his cogent thoughts.

Mr. ABDNOR. I assure the Senator we will give it every consideration in the conference.

Mr. GLENN. I thank the Senator very much.

Mr. METZENBAUM. Mr. President, I want to urge the chairman of the committee and the ranking democratic member to support in conference the project to repair Milton Dam in Youngstown, OH.

Milton Lake has been a prime recreation area for the city of Youngstown and the surrounding region for more than 60 years.

Unfortunately Milton Dam is in a state of serious disrepair. A 1980 report of the Army Corps of Engineers concluded that an "emergency situation may ultimately result" if steps were not taken to repair it.

Following a new study of the dam last month, the Ohio Department of Natural Resources concluded that the dam is unsafe, and recommended that the dam be breached and the lake drained.

This would be a tragedy for Youngstown and the entire region.

Mr. President, the economy of Youngstown is severely depressed. The city simply does not have the $6.7 million needed to repair Milton Dam. As a matter of fact, the mayor of Youngstown says that the city cannot even afford to pay back a loan if such a loan to repair the dam is provided.

H.R. 6, the House passed measure would loan Youngstown 80 percent of the funds needed to repair the dam. Recognizing that a loan would not save Milton Dam, the State of Ohio recently offered to provide a $4 million grant to help pay for the needed repairs. That still leaves Youngstown

$2.6 million short.

Mr. President, I was prepared to offer an amendment to provide the additional needed funds. However, the bill managers have indicated that no amendments for new projects would be accepted.

Therefore, I would hope that the conferees see fit to provide the additional $2.6 million grant needed to complete the repair project. I believe the State of Ohio clearly has demonstrated its commitment to solving this crucial problem. It is a worthwhile investment, and many people in Youngstown are depending on it.

WARRIOR-TOMBIGBEE WATERWAY

STATEMENT OF ARTHUR NICHOLS, PRESIDENT, WARRIOR-TOMBIGBEE DEVELOPMENT ASSOCIATION

Senator JOHNSTON. Next, we want to welcome Mr. Offa Nichols, president of the Warrior-Tombigbee Development Association.

Mr. NICHOLS. Thank you, sir. Senator, thank you very much for allowing us to come. I say "us." There were 15 of us here today. They have had to depart for various reasons.

I have submitted a formal statement for the record, along with several dozen statements from businesses in the area.

What I would like to do very, very briefly here this afternoon, is just to touch some high points to tell you what we did with the money appropriated for this project over the years, because we think it illustrates just exactly what the civil works program is all about.

PROJECT HISTORY

The Warrior-Tombigbee Waterway began to be navigable some time around the turn of the century, and in 1915 there were 17 old locks and dams on the system. We had about a 3-foot channel. Over the years, the waterway has grown. Some significant new things happened beginning shortly after World War II. Traffic at that time was about 17 million, about 2½ million tons.

Congress authorized the Corps to make studies on the modernization of the system. Those studies indicated that if the system was modernized that there would, in fact, be about 8 million tons of traffic on that system by 1980, which would more than pay back the investment and make it entirely worthwhile. Five new locks and dams were built on the system, replacing substantially all of those old 17 wooden locks and dams during that period of time, the last one having been completed in 1975.

What happened was that the traffic did develop, growth has taken place; there has been a tremendous amount of local input and investment, projecting 8 millions tons traffic moved, but it didn't move in 1980; it moved in 1966. In 1980, symbolically, 16.7 million tons of traffic was on the system, more than double what had been projected, and more than double the benefits from that Federal investment that had been made earliest.

Notwithstanding the fact we have had this intervening world slowdown in 1981 and 1982 and 1983 of the heavy users of the waterway—steel, petroleum, coal, and grain—those are still suffering greatly. Notwithstanding, that traffic has begun to increase again, and we are now running about 18 million tons of traffic on that system during that time.

STATE AND LOCAL INVESTMENT

Local interests have responded very, very promptly and very heavily. In my own 5 years of personal knowledge, I have seen several billion dollars invested, $1 billion from the coal interests, over $1 billion from the steel industry, and new and modern facilities in the Birmingham and Tuscaloosa area, and many millions by the marine industry.

It is interesting to note that the Alabama State Docks recently completed a $250 million expansion and modernization program in order to handle waterway traffic, and that is more than the entire Federal investment in all the locks and dams on the entire system up to this particular point.

That is the good news. There is a little bit of bad news or, rather, there are some areas that need to be worked on. First of all, this rapid growth in highly competitive world market conditions have placed significant demands on the waterway not anticipated, and right in the middle of the system, there is the sixth lock.

WILLIAM BACON OLIVER LOCK AND DAM

I said there were five new ones. There is one lock built before 1892—William Bacon Oliver in Tuscaloosa—smaller than the system, and therefore creating a terrible bottleneck. That has been studied for a number of years.

Fortunately, the study is completed, and the Oliver Lock is included in the current authorization bills that have been passed in both Houses of the Congress. The Corps, by virtue of the support of this appropriations committee and the one in the House, have been allowed to proceed in a very orderly and cost effective fashion on the planning and engineering and are ready to go to work.

As a matter of fact, if the $10.5 million in the Corps budget for new construction on Oliver Lock is provided this year, they will get off to an effective start, ready to issue the lock construction contract in 1987 with navigation through the new lock scheduled for 1991.

O&M REQUIREMENTS

We need a little help in the O&M area. In the Corps budget request, apparently there has been an adjustment in the figures since I left Birmingham last Monday. The budget request is somewhere in the range of $11.9 to $12.2 million. We need that money for day-to-day operations. We need some of the additional capability that the Corps has stated in the range of $4.2 million to continue some incrementally funded programs that they have been working on for several years to improve the ability of the channel to carry the traffic and to improve the flow; cutting future costs is what we are really talking about.

They have some forward-looking programs that have been very, very helpful to dispose of dredge spoil and sedimentation to keep it under control as it has. So we need a little extra help in the O&M area. We think the very brief report given on the history of the project since World War II demonstrates that the money has been very, very well invested.

We appreciate the support of the committee. We ask you to continue your support. We think that our performance to date illustrates it has been a wise move on your part, and we pledge that we will work awfully hard to make you feel that way.

Senator JOHNSTON. Thank you very much.

Mr. Nichols, I am glad to hear good words about the Warrior-Tombigbee. We hope we will continue to be able to help you with this request.

[The statement follows:]

STATEMENT OF WARRIOR-TOMBIGBEE DEVELOPMENT ASSOCIATION

SUMMARY OF THE REQUEST

The following is a summary of the funding items for the U.S. Army Corps of Engineers for FY86 which bear on the needs of the Warrior-Tombigbee Waterway, and which we ask the Committee to approve:

Warrior-Tombigbee Waterway	
Operations & Maintenance Funds included in Corps' Budget Request	$11,948,000.
Additional Capability Funds for O&M, not included in Corps' Budget Request	4,232,000.
Total O&M Funds Required	$16,280,000.
Funds for New Construction, included in Corps' Budget Request	$10,500,000.
Total New Construction Funds Required	$10,500,000.

Other needs allied to the Warrior-Tombigbee are:

Mobile Harbor	
Operations & Maintenance Funds, included in Corps' Budget Request	$7,112,000
Total O&M Funds Required	$7,112,000.
Funds for New Construction, included in Corps' Budget request	$15,000,000.
Total New Construction Funds Required	$15,000,000.

We wish to highlight the item identified above as Additional Capability. Since this item was not included in the Corps' Budget Request, it is not clear to us whether the Committee has been informed of the essentiality of funding for certain of these Capabilities. We must emphasize the need for additional O&M funds if we are to have an adequate current year program, and to support on-going projects designed to improve safety and efficiency and reduce future costs.

I am Offa S. Nichols, Jr., President of the Warrior-Tombigbee Development Association. Our members represent a cross-section of shippers, carriers and the general business community in the Warrior-Tombigbee basin in Alabama, and eight other states. The Association was formed in 1951 to work for the redevelopment of the Warrior-Tombigbee Waterway System. Construction of the original 17 locks and dams began in the late 1870's and was completed in 1915. The navigation system provided by these locks and dams had gradually deteriorated and by the mid-1950's the annual tonnage had levelled off at 2.5 million tons due to the condition and limited capacity of the obsolete locks.

The Association's objectives have been not only the replacement of the outmoded locks and dams and improvements in the Mobile Bay area, but also the appropriation of sufficient O&M funds to support efficient and reliable navigation. Congress has generally appropriated the necessary funds to support these objectives. There are now only six locks in the 400-plus miles from the head of navigation, located northwest of Birmingham, to the Port of Mobile. During the studies which resulted in this redevelopment, it was projected that by 1980 the Waterway would carry some 8 million tons. These levels were reached in 1966, and by 1980 twice the projected tonnage was being moved on the waterway. Despite the subsequent economic downturn, traffic has begun to grow again, reaching 18 million tons in 1984 and 1985.

The Warrior-Tombigbee Waterway now has a system of modern locks and dams with the exception of one lock, William Bacon Oliver. While prior to the late 1970's the waterway had operated in a generally efficient and reliable manner, we now have a different set of circumstances. These circumstances reflect not only the impressive growth up to now and the ravages of time and the elements, but even more the current economies of world markets. Some estimates indicate that 10% of our nation's coal reserves are located in the Warrior Basin. Two-thirds of the coal exported through the Port of Mobile arrives there by barge from the Warrior Basin, and over 7 million tons of coal move via this waterway to the electric generating plants in our area. Our mines produced the second highest tonnage in history last year, and the Warrior-Tombigbee is essential to their market position. Farmers from Alabama and Mississippi ship their grain to Mobile for export. These farm families are dependent on the waterway for efficient transportation of their products, more important than ever in today's competitive world markets.

Shipments of ore, steel and related products are increasing because of new and modern manufacturing facilities at U.S. Steel. The continued efficiency and modernization of the waterway were important in U.S. Steel's recent decision on even further modernization of their Fairfield facilities. A new mini-mill has been built near Tuscaloosa - the first such new facility to be built in this country in 19 years. While we say mini-mill, it represents an investment of $100 million and is on the leading edge of technology. The efficiency and reliability of the waterway will be significant factors in the competitiveness of these new facilities. Thousands of jobs hang in the balance. We believe we are about to have ringside seats at the re-birth of the steel industry in this region.

There are many other commodities moving on the waterway, such as other ores, crude and fuel oils, other steel products, chemicals, aggregates and now, by substantial increased tonnages of wood products. Related industries, though still impacted by the competitive international markets, plan to grow and modernize.

These ever-increasing demands require that the Warrior-Tombigbee operate at peak efficiency on a full-time basis. Our operational efficiency is seriously impaired by the bottleneck caused by the one remaining substandard lock -- Oliver on the Warrior River. This lock has had to be closed several times during the current year for unscheduled maintenance, followed by a scheduled closure of 30 days on very short notice. Oliver, a pre-World War II lock, is 95-460 feet and is smaller than the other five, all of which are the new standard size of 110-600 feet. This necessitates tows being broken apart and utilizing double lockages to pass through. The replacement of Oliver is included in both HR6 and S1567. The Corps is prepared to issue the initial contracts in July and to begin river diversion in November. Lock and dam construction can begin in 1987. Approval of the $10.5 million in new construction funds will permit the Corps to proceed in an orderly and efficient manner. Meanwhile, it is even more important that the remainder of the waterway operates at full efficiency.

Because of the waterway, several billion dollars have been invested by industry, farmers and other governmental agencies, providing thousands of jobs. The Alabama State Docks' $250 million expansion program is complete and this facility now offers the most advanced coal handling technology available in this country. Similar improvements have been made for grain handling and bulk materials. It is interesting to note that the investment by this single local agency far exceeds the federal investment in building all the locks and dams on the entire waterway. We are asking for federal investments that pay off many fold.

These are but examples of how this waterway is so central to the economy of this entire area, impacting both domestic and international markets. Attached with this statement are letters from our members further highlighting this importance. I hope you will note the wide range of interests represented by these statements. Included are financial institutions; public utilities; both deep water and inland port facilities, representing both public and private ownership; coal mining, both deep and surface; manufacturers; agri-business; suppliers; constructors; and, of course, marine interests. These represent a real cross-section of the economic heartbeat of an entire region.

With respect to the actual funding needs, we support the Corps' request for O&M funds for the Warrior-Tombigbee. We are concerned, however, that the requested level of funding, $11.9 million, will not support the kind of O&M program which is required to keep the system reliable and efficient. The funding in the budget request represents the average requirement over the past several years for day-to-day operations. These funds would likely support normal and efficient operations during FY87. However, they will not permit the continuation of an on-going program designed to correct deficiencies of long standing and to handle our increased traffic on an efficient, long-term basis. Work is being done to reduce sedimentation and shoaling, thereby reducing O&M costs in future years. Currently, non-structural measures are underway which will increase efficiency and traffic flow through several reaches of the Tombigbee, thereby enhancing its ability to handle the increased traffic. If the investment in these well thoughtout and cost effective projects is to continue, the shortage is some $4.2 million. In our area, where unemployment has just begun to decline and with basic industry still struggling to get back on its feet and regain a competitive position in tough world markets, this short fall would be devestating.

We note with great pleasure the inclusion of requested New Construction funds in the amount of $10.5 million to begin the construction of the new Oliver Lock. Through the wisdom and steadfast support of the Appropriations Committee, it has been possible to accomplish the planning and design process on an orderly and efficient basis, and the Corps is ready to begin as early as July. We request your support once again for this $10.5 million to begin the actual construction.

The following is a summary of the funding items which bear on the needs of the Warrior-Tombigbee Waterway, and which we ask the Committee to approve:

Warrior-Tombigbee Waterway

Operations & Maintenance Funds included in Corps' Budget Request	$11,948,000.
Additional Capability Funds for O&M, not included in Corps' Budget Request	4,232,000.
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Other needs allied to the Warrior-Tombigbee are:

Mobile Harbor

Operations & Maintenance Funds, included in Corps' Budget Request	$7,112,000
Total O&M Funds Required	$7,112,000.
Funds for New Construction, included in Corps' Budget request	$15,000,000.
Total New Construction Funds Required	$15,000,000.

We believe the Warrior-Tombigbee Waterway is a classic example of the most positive aspects of the Civil Works Program. The Congress saw the potential and supported its program. And now the project continues to demonstrate its worth, having more than doubled the projected tonnage and benefits. I wish to emphasize that the funds which we seek are of the investment category, not expense. This is seed money, spawning reinvestment many times over.

We fully endorse and seek the approval of these items. I, as President of the Warrior-Tombigbee Development Association, our other Officers, our Board of Directors, and our Members appreciate the consideration of the Chairman and members of this Subcommittee and its staff have shown us over the years. We ask for your support once again.

We are attaching additional written statements of support, along with a witness list, representing a cross-section of business, industry and the public.

Thank you for your consideration. We stand ready to answer questions.

WARRIOR-TOMBIGBEE DEVELOPMENT ASSOCIATION

LIST OF WITNESSES

The Honorable Howell Heflin - Senator, Alabama
The Honorable Jeremiah Denton - Senator, Alabama

The Honorable Sonny Callahan - Member of Congress, Alabama
The Honorable Bill Dickinson - Member of Congress, Alabama
The Honorable Ben Erdreich - Member of Congress, Alabama
The Honorable Ronnie Flippo - Member of Congress, Alabama
The Honorable Bill Nichols - Member of Congress, Alabama
The Honorable Richard Shelby - Member of Congress, Alabama

Representing Governor George Wallace:
- Mr. W.M. "Bill" Rushton - Director, Alabama Dept. of Economic & Community Affairs
- Mr. Walter Stevenson - Alabama Dept. of Economic & Community Affairs
- Mr. Lambert Mims - Alabama Waterways Development Agency

Mr. Sheldon L. Morgan - Chairman, Warrior-Tombigbee Development Association
  Senior Vice President, First Alabama Bank of Mobile
Mr. N.J. Barchie, Jr. - Vice Chairman, Warrior-Tombigbee Development Association
  President, Warrior & Gulf Navigation Company
Mr. Offa S. Nichols, Jr. - President, Warrior-Tombigbee Development Association
Mr. R.A. Burk, Jr. - River Region Manager, Scott Paper Company
Mr. E.G. Browning - Director of Traffic, Alabama State Docks Department
Mr. R.A. Guthans - President, Tenn-Tom Towing, Inc.
Mr. Les Hudgins - Transportation Manager, Harbert International
Mr. John McCarron - President, Ryan-Walsh Stevedoring Company
Mr. John Mixon - General Manager, Warrior & Gulf Navigation Company
Mr. Tim Parker, Jr. - Executive Vice President, Parker Towing Company
Mr. Marrion Rambeau - Trade & Transportation Mgr., Mobile Area Chamber of Commerce
Mr. Phillip Wiedmeyer - Manager-Governmental Affairs, Alabama Power Company

WASHINGTON APPROPRIATIONS HEARINGS

LIST OF STATEMENTS

Alabama Electric Cooperative, Andalusia, AL
Alabama Power Company, Birmingham, AL
Alabama State Docks Department, Mobile, AL
American Commercial Barge Line, Harahan, LA
AmSouth Bank N.A., Birmingham, AL
Chicago Bridge & Iron Company, Birmingham, AL
Dixie Carriers, Inc., Houston, TX
Dravo Basic Materials, Inc., Mobile, AL
Drummond Coal Company, Jasper, AL
First Alabama Bank of Mobile, Mobile, AL
Gulf Power Company, Pensacola, FL
Harbert International, Birmingham, AL
Harrison Bros. Dry Dock & Repair Yard, Mobile, AL
Hunt Refining Company, Tuscaloosa, AL
International Paper Company, Monroeville, AL
Jasper Area Chamber of Commerce, Jasper, AL
Lapeyrouse Grain Corporation, Mobile, AL
Mississippi Power Company, Gulfport, MS
Mobile Area Chamber of Commerce, Mobile, AL
Parker Towing Company, Tuscaloosa, AL
Southern Company Services, Birmingham, AL
SouthTrust Bank of Alabama, Birmingham, AL
Soya Grain Company, West Point, MS
State of Alabama, Office of the Governor
State of Alabama, Dept. of Economic & Community Affairs
State of Alabama, Al. Waterways Development Agency
Tenn-Tom Towing, Inc., Mobile, AL
U.S. Steel Corporation, Fairfield, AL
Volkert & Associates, Inc., Mobile, AL
Vulcan Materials Company, Birmingham, AL
Jim Walter Resources, Inc., Brookwood, AL
Warrior & Gulf Navigation Company, Mobile, AL

STATEMENT OF ALABAMA DEPARTMENT OF ECONOMIC AND COMMUNITY AFFAIRS

I wish to express my thanks to you for the opportunity to address this Subcommittee today along with my fellow Alabamians in support of the Black Warrior-Tombigbee Waterway. I want to restate my strong and continued support for a fully-funded operation and maintenance program by the Corps of Engineers for the Black Warrior-Tombigbee Waterway and for Mobile Harbor. Also, I support approval of additional funds to those requested by the Corps of Engineers to initiate construction of the new Oliver Lock.

The Black Warrior-Tombigbee Waterway is the most efficient of Alabama's inland waterways. It is linked to world markets via the Port of Mobile, and now to all of mid-America and the Great Lakes via the Tennessee-Tombigbee Waterway. During 1984 we understand that tonnage on the Black Warrior-Tombigbee Waterway totalled 18 million tons. This shows continued and substantial growth when compared to 1966 figures of 8 million tons. The Black Warrior-Tombigbee Waterway provides efficient transportation for approximately 70 percent of Alabama's coal production which is exported through the Alabama State Docks at Mobile and for the grains shipped by farmers to Mobile from 21 Alabama and Mississippi counties.

Other important commodities such as ore, steel, forest products, petroleum, chemicals and aggregates move on the Black Warrior-Tombigbee Waterway to the Gulf of Mexico via the Gulf Intracoastal Waterway en route to other parts of the nation and the ports of the world.

We support a request of at least $16.18 million for the regular operations and maintenance (O&M) program of this waterway. The Corps of Engineers' request for $11.948 million is an inadequate amount for an effective operations and maintenance program on the Black Warrior-Tombigbee Waterway. This proposed amount for O&M is below the average amount which has been required and necessary over the past five years. This deficiency would seriously threaten the future of efficient and reliable water commerce on the Black Warrior-Tombigbee Waterway. With our unemployment still among the highest in the nation, and with basic industry still struggling to become competitive and get back on its feet, this would be devastating to our area. With this amount, several Corps' projects underway that are designed to improve channel efficiency and reduce future costs could not be continued.

Also, we support approval of the $10.5 million request by the Corps of Engineers to initiate construction of the new Oliver Lock replacement. The existing lock, built before World War II, is substandard in design and dimension compared to the other five locks on this waterway, which were completed and opened to navigation between 1954 and 1975 and meet current design standards. The existing Oliver Lock is a serious bottleneck on the waterway. It is imperative that construction on the new lock begin as soon as possible, before the existing lock reaches the practical upper limit of tonnage capacity. We believe this level of funding will support the timely and orderly placement of contracts and the other work which should be done in FY 87.

Also, I support the Association's request for adequate funding for the operation and maintenance of Mobile Harbor. Mobile Harbor is vital to the ongoing operations of the Port of Mobile and the Black Warrior-Tombigbee Waterway. The Alabama State Docks at the Port of Mobile is completing a $250 million expansion program, and this facility offers the most advanced coal-handling technology available in this country. This state investment far exceeds the federal investment for constructing all the locks and dams on the entire waterway.

In closing, I affirm my support and that of the Alabama Department of Economic and Community Affairs. I can assure you that the State of Alabama will continue to meet its responsibilities and obligations for these projects. I appreciate the support and assistance which you and all the members of the Subcommittee have given us over the years in insuring adequate funding is provided for the full-time operation and maintenance of the Black Warrior-Tombigbee Waterway.

STATEMENT OF ALABAMA STATE DOCKS DEPARTMENT

The Alabama State Docks Department would again this year like to express its appreciation to this Subcommittee with respect to its energies and dedications with regard to your diligent and enduring support of our nation's great Waterway Systems, and to once again recognize the value of these annual Hearings on behalf of one of America's greatest assets.

The Warrior-Tombigbee River System ranks very high among our national waterway assets and its operation and maintenance are of vital importance to the State of Alabama and the Alabama State Docks Department. The Alabama State Docks Department has been involved in a continuing program of renovation of its existing facilities and new construction and expansion programs which over the last ten years has resulted in expenditures of $250 million targeted at giving the Department's facilities at the Port of Mobile the newest and most technologically advanced deep-water terminal cargo handling facilities.

The Department's Bulk Handling operations at the Port of Mobile and at the Alabama State Docks are vital to the State of Alabama as well as the MidAmerica Region of the United States, and together with our Inland Waterway System function as an expedient and cost effective means of shipping products produced and manufactured in the State of Alabama into worldwide markets. Volume shipments of grain move annually from inland elevators located on the Warrior-Tombigbee Waterway by barge to the Port of Mobile for subsequent export to consuming nations around the world, and the system acts as a major conduit for large, annual coal volumes which move to the Port of Mobile and are handled through the Department's McDuffie Export Coal Handling Plant. Just this past year export coal handled at Mobile increased by a million and a half tons up to a record high of ten million tons, representing the largest commodity handled at the Port and making the Port of Mobile one of the few ports in the nation where export tonnages outranked import tonnages.

Major shipments of bulk ores are handled through the Department's Bulk Material Handling Plant and a large percentage of this tonnage moves on the Waterway System.

The highly competitive posture of the Alabama State Docks and the Port of Mobile is a direct result of the Port's enviable inland transportation infrastructure. Four major rail lines and one regional rail carrier serve the Port of Mobile; however, it is the State's inland river system that continually gives the Port its competitive edge.

Although the State of Alabama is blessed with 2,000 miles of navigable waterway and also now enjoys the benefit of the newly completed Tennessee-Tombigbee System, the Warrior-Tombigbee is still the heavier utilized system in the State at this time and constitutes a major transportation artery for coal, iron ore and grain.

This Waterway, its operation and maintenance are of vital importance to the Alabama State Docks, the Port of Mobile, as well as the State of Alabama.

Fiscal Year 1987 allocation for operation and maintenance of the Black Warrior Tombigbee River is leveled at $11.9 million; however, it is felt that this would not be sufficient to do more than nominal O.&.M, and for continuance of the ongoing deficiency correction program which is improving dredging disposal and reducing shoaling additional capability funding would be required.

The budget also proposes $10.5 million to initiate construction of a new Oliver Lock, and approval of this amount is critical to the timely and efficient contract placement to remove this present costly bottleneck.

Mr. Chairman, the Alabama State Docks Department appreciates the opportunity to appear before this Subcommittee today, and we are grateful for the time and consideration of the Committee. The Department, in concert with the Warrior-Tombigbee Association and the Governor of the State of Alabama, offers its support for the testimony of Mr. Offa S. Nichols, Jr., President of the Warrior-Tombigbee Development Association.

Not only is this Waterway vital to the interest of Alabama in that it provides an economic mode of transportation, it also has the national effect through the movement of export coal and grains of offering this country vital assistance in bringing the balance of our deficit in trade and payments

The River System is energy efficient and constitutes an integral part in local, national and international trade, and we at the Alabama State Docks Department pledge our unerring support to its continued development.

STATEMENT OF ALABAMA POWER CO., BIRMINGHAM, AL

The Warrior-Tombigbee Waterway is vital to the economic health of Alabama. The state's water transportation system must be efficient and well-maintained for the basic industries, such as mining and heavy metals, to provide a sound economic base for the state and for Alabama to enjoy economic growth.

Alabama Power Company's continued interest in the Warrior-Tombigbee Waterway is two-fold. First, our business is dependent on the general economic health of the state; and, second, we are a primary user of the waterway. For nearly three decades, we have used economical water transportation to deliver coal to two of our major electric-generating plants.

Four of Alabama Power Company's seven fossil-fueled, electric-generating plants are located on the Warrior-Tombigbee Waterway system. Coal from the Warrior coal field is delivered to two plants near the coal field and loaded onto barges for shipment to two generating plants in the southern and central parts of Alabama. The 1,525-megawatt Plant Barry in Mobile County, which began operation in 1954, is supplied primarily by the Warrior-Tombigbee Waterway, as is the 500-megawatt Plant Greene County near Demopolis.

We have two major concerns about the Warrior-Tombigbee Waterway. The pre-World War II Oliver Lock's capacity is inadequate, and this creates a bottleneck which impedes efficient operations on the river. Funds budgeted to initiate construction of the new Oliver Lock should be approved. Also, adequate funds for operation and maintenance must be made available to the Corps of Engineers to continue efficient operation of the waterway and to avoid expensive and unnecessary interruptions to river traffic.

Alabama Power Company received 4.5 million tons of coal in 1985 which were transported on the Warrior-Tombigbee Waterway. This represented 30 percent of the 15 million tons used to generate electricity for our customer's use. Failure to replace Oliver Lock or to properly maintain the waterway can have a significant adverse effect on the cost of providing electric service to Alabama Power Company's over 1,000,000 customers.

Alabama Power Company supports the collective effort of the Warrior-Tombigbee Development Association, of which it is a member, to obtain the replacement of Oliver Lock and to obtain for the Corps of Engineers an adequate operations and maintenance budget which will ensure the long-term, efficient and economical viability of the waterway.

STATEMENT OF ALABAMA ELECTRIC COOPERATIVE, INC., ANDALUSIA, AL

On behalf of Alabama Electric Cooperative, Inc. and its member systems, I would like to request your support of FY87 Corps of Engineers funding for the Warrior-Tombigbee Waterway and the Port of Mobile.

AEC depends on water transportation for its primary movement of coal; therefore, adequate funding for the Warrior-Tombigbee Waterway and Port of Mobile is essential for AEC to provide reliable and low-cost electric power to its member systems. AEC's service area is mostly agricultural/forest related industry and is still severely depressed except two small areas along the Alabama-Florida Coastline.

AEC supports the Corps of Engineers' budget request; however, we feel it needs to be increased. A more detailed statement is attached giving some of our reasons why sufficient funding is necessary to continue programs that are critical to the efficiency and reliability of the navigation channel and to the reduction of future maintenance costs.

We do hope we can count on your support in this matter which is vital to AEC and its members.

Alabama Electric Cooperative, Inc. (AEC)--a generation and transmission cooperative with headquarters in Andalusia, Alabama--supplies wholesale electrical energy to sixteen rural distribution cooperatives, four cities and two industries in South Alabama and the panhandle of Northwest Florida. A major portion of this energy is generated at AEC's Tombigbee Plant located near Jackson, Alabama on the Black Warrior-Tombigbee Waterway (BWT). The Tombigbee Plant is fired by coal and can receive coal by rail and barge. However, the current cost per ton for transportation to the Tombigbee Plant via the BWT Waterway is approximately 52 percent less than via rail. Fuel and transportation represent approximately 32 percent of AEC's operating cost. Therefore, an efficient and reliable BWT Waterway is of the upmost importance to AEC, its member systems and their consumers.

The first 65 MW unit at AEC's Tombigbee Plant went into commercial operation in 1969, then two 225 MW units--one in 1979 and the other in 1980. In 1969 approximately 200,000 tons of coal were moved to the Tombigbee Plant via the BWT Waterway. This tonnage has continued to increase since 1969, with 683,306 tons shipped in 1985, and plans are to move

770,000 tons via the BWT Waterway to the Tombigbee Plant in 1986. Within the next two to three years the Tombigbee Plant will be operating at its maximum capacity and it is estimated that up to one million tons will be delivered by the BWT Waterway at that time.

In addition to the movement to the Tombigbee Plant, AEC has recently purchased a site located on the BWT Waterway in Choctaw County, Alabama for a future fossil-fired plant. One of the prime reasons for selecting this site was the availability of water transportation afforded by the BWT. It is projected that the first unit will be needed some time in the mid-1990's and will burn approximately one million tons per year. This site will be able to accommodate four units, and with all four in operation the annual consumption would be approximately four million tons.

The Tombigbee Plant is located on the back side of a 90 degree bend on the BWT and this causes the barge unloading area to silt-in during periods of high water and necessitates the dredging of this area annually. In addition to the two to four weeks required for dredging there is usually two weeks lost due to high water. This plant is located below the last lock and dam on the BWT and has no flood control. If there is a scheduled or unscheduled lock outage on the BWT --of which there is usually one 30-day outage annually--this only adds additional time to the normal four to six weeks that the Tombigbee Plant is unable to receive barge coal.

With the above mentioned loss of barge transportation to the Tombigbee Plant, AEC is concerned that even more down time will result if sufficient funds are not made available for operation, maintenance and channel improvements for the BWT. This will force AEC to utilize rail transportation to a greater extent which will result in higher cost for electrical energy for its member systems and their ultimate consumers.

The service area of AEC's member systems is primarily agricultural/forest related industry and is still severely depressed with the exception of two small areas along the

Alabama-Florida Gulf Coast. If these depressed areas are going to recover, they desperately need electrical energy at the lowest possible cost.

Unfortunately, these rural consumers are already paying a higher cost for electrical energy than their urban counterpart due to the cost encountered in providing electrical service to sparsely populated areas versus high density areas.

AEC is of the opinion that the proposed $11.9 million for operations and maintenance for the BWT is inadequate and will not allow the continuation of the ongoing deficiency channel correction program. The work that has been underway for several years to improve dredging and reduce shoaling on the BWT will have to be discontinued or terminated. Continuation of the deficiency correction program is critical to the efficiency and reliability of the BWT and to the reduction of future maintenance cost. AEC feels additional funds should be made available to ensure an adequate operation and maintenance program and a continuation of the channel improvement work for the BWT and Mobile Harbor.

The $10.5 million budget proposal to initiate construction of the new Oliver Lock is supported by AEC. Approval of this funding is essential to the timely and efficient contract placement to eliminte this old antiquated lock from an otherwise modern and efficient waterway.

For the above stated reasons, AEC fully supports the testimony of Offa S. Nichols, Jr., President of the Warrior-Tombigbee Development Association, before your Subcommittee.

Thank you and your Subcommittee for allowing AEC to submit this statement.

STATEMENT OF GULF POWER CO., PENSACOLA, FL

Gulf Power Company is an investor-owned electric utility and a member of The Southern Company; we serve 257,693 customers in the Florida panhandle. Our Company utilizes coal for over 99 percent of its total generation requirements within Florida and consumes approximately 2.9 million tons per year. Over 95 percent of our coal deliveries in Florida are dependent upon waterway transportation.

Gulf Power currently moves approximately 1.0 million tons of coal on the Warrior-Tombigbee Waterway and/or through the Port of Mobile. The remainder of Gulf's coal delivered over the national river systems originates from the Southern Illinois Coal Basin vicinity and travels down the Mississippi River through the Port of New Orleans. From the ports of New Orleans and Mobile, all waterway deliveries travel via the intercoastal waterway for delivery at our Pensacola and Panama City generating plants.

As you can see from Gulf's dependence on the Warrior-Tombigbee Waterway and the Port of Mobile, we wholeheartedly support the need for adequate funding to properly maintain and improve operations. It is imperative that Gulf continue to receive coal shipments in order to provide continued reliable electric service at the most economical cost to our customers. We are also concerned about the future industrial growth in our service area and must be certain that adequate fuel supplies can be transported to our generating plants.

In summary, we are in full support of the efforts of the Warrior-Tombigbee Development Association to provide efficient and reliable waterway systems for coal delivery. We urge you to approve the Corps' O&M Budget request to provide adequate funds to maintain the Warrior-Tombigbee Waterway and the Mobile Harbor. In fact, we would urge you to approve more than the proposed $11.9 million which will only provide bare bones operation tasks. Also, the $10.5 million funding to initiate construction for the replacement of Oliver Lock is a very important part of the Corps' budget request and must be approved.

We feel that it is not only in Gulf Power's interest to support this worthy endeavor, but also in the best interest of the customers of our service area and the nation to improve our capabilities to transport coal and other commodities from points of origin to market places via the Warrior-Tombigbee Waterway and the Port of Mobile.

STATEMENT OF SCOTT PAPER CO., SARALAND, AL

Scott Paper Company appreciates the opportunity to submit a statement on our use of the Warrior-Tombigbee Rivers system. Water transportation of raw materials is of great importance to our company and will be even more so in the future. Decisions of this Committee will therefore be very important to our company's future operation, profitability, and employee work force. Failure to provide for dredging and other projects on the Warrior-Tombigbee Rivers system could increase our company's operating costs to the detriment of the economy of Alabama and its citizens.

Scott Paper Company in Alabama manufactures lumber, pulp and a wide variety of paper products which are shipped to markets throughout the United States. The payroll for our 4,000 employees in the Mobile, Alabama, area is $110 million annually. Scott's operation in the Mobile area contributes over $1 million per day to the economy through payroll, taxes, and purchase of pulpwood and supplies.

Water transportation is used in Scott's Alabama operation to move raw material - pulpwood and logs - to manufacturing plants.

We have used water transportation of wood raw materials on the Warrior-Tombigbee Rivers system for a number of years and are currently upgrading and enlarging our water transportation capabilities. Our $70 million dollar investment in 1982-83 has resulted in lower operating costs which, in turn, has improved the competitiveness of our Alabama operations. We are currently barging approximately 1,400,000 tons of wood on the Warrior-Tombigbee Rivers system to our Mobile, Alabama, manufacturing plants. The $70 million investment included modernization of our Hooks Lake Bargeyard and riverbank woodyards and the Mobile woodyard.

We are continuing to expand our operation and now operate ten towboats and sixty-four barges. Fifty percent of our raw material is being delivered on the Warrior-Tombigbee Rivers system. Since last year we have opened a new bargeyard at Boligee (Mile 268). We have completed construction of a 2800 horsepower towboat.

With this additional $3.2 million investment in new water transportation facilities, it is obvious that a well-maintained Warrior-Tombigbee Rivers system is critical to our company's future. Failure of the U. S. Army Corps of Engineers to dredge and carry out other projects on the Warrior-Tombigbee Rivers system could result in higher transportation costs and negative economic pressures on the company, the economy of Alabama, and the 4,000 Scott employees.

We urge the Committee to provide adequate funding for the Warrior-Tombigbee Rivers system and Mobile, Alabama, harbor.

STATEMENT OF LAPEYROUSE GRAIN CORP., MOBILE, AL

Lapeyrouse Grain Corporation is a regional grain company operating in the states of Mississippi, Kentucky, Alabama, Georgia and Florida. We have twenty active, operating facilities that receive agricultural commodities grown by area producers in these states. Ten of our facilities are located on the southeastern inland waterway system and ship virtually all of the commodities by waterborne transportation. These water shipments are generally destined to Mobile for export through the Mobile Public Elevator.

Two of our above mentioned facilities are located on the Warrior-Tombigbee waterway system. A reliable and efficient system is important to them. The economic viability of these locations and the agricultural communities that rely on them benefit from the lowest cost mode of transportation, water, to carry their product to world markets.

We, therefore, support and ask you to support the project and testimony being presented by Mr. Offa S. Nichols, Jr., President of the Warrior-Tombigbee Development Association.

With regard to the proposed operation and maintenance budget of $11.9 million and $10.5 million for the proposed Oliver Lock and Dam, we support the allocations. It appears, however, that the $11.9 million allocation for O & M is insufficient to even maintain ongoing projects that improve channel efficiency and reduce costs. We would suggest revaluation in this area, and would support an upward revision in the O & M allocation.

Thank you for the opportunity of presenting our company's view, and we hope through support of the above that cost efficient, reliable waterways can be developed and maintained.

STATEMENT OF DRUMMOND COAL CO.

The following is a statement in support of improving the efficiency and reliability of the Warrior-Tombigbee Waterway and the Port of Mobile.

Drummond Coal Company was founded in 1935 by Mr. Heman Drummond who developed his first mine underground near Sipsey, Alabama. It was a drift mine, angling into a hillside from which men dug and mules hauled the bituminous Appalachian coal. Many of Mr. Drummond's customers were local people who needed coal for home heat. As his sons grew up, they joined him and the family opened their first surface mine using small diesel shovels. Half a century has passed since Mr. Drummond produced his first ton of coal.

Today, Alabama is a major coal producing and exporting state. Drummond Coal Company is the largest surface coal producer, one of the largest coal exporters in the southeastern United States, and one of the top twenty non-captive bituminous coal producers in the nations. Drummond serves metallurgial, utility and specialty coal customers on four continents from mines in six counties in north central Alabama. Drummond Coal Company alone presently employs in excess of 4,500 people with an annual payroll of approximately $120,000,000.

About 90% of the state's coal production, including most of Drummond's, comes from the Warrior Field located in north central Alabama. The Warrior Field or Warrior Basin as it is also known, is a basin-like geological structure covering more than 3,500 square miles and underlying parts of Winston, Marion, Fayette, Tuscaloosa, Cullman, Blount, Jefferson and all of Walker County. The field is cut through by the Warrior River system which has led to the development of mines using water transport.

Alabama's system of riverways offers water transport of national and international destinations via the McDuffie Coal Terminal at the year-round Port of Mobile on Alabama's Gulf Coast. Barging in Alabama is a particularly good way to move coal because of the extent of Alabama's waterways and because of the coal handling facilities available.

Drummond ships this coal from five different coal loading facilities located at various points on the Warrior River system, two of which are company owned and operated. Drummond owns and operates a barge loading facility located at milepost 354 on the Warrior River in conjuction with its Kellerman mining operation. This barge loading facility handles about 1,400,000 tons of production at the Kellerman Mine and 2,000,000 tons of production for the Jim Walter Corporation. Another company owned barge loading facility is located at milepost 401.5 on the Locust Fork portion of the Warrior River in conjuction with Drummond's Short Creek operation. This barge loading facility has the optential to handle approximately 1,000,000 tons per year at Port Birmingham which is located at milepost 399 on the Warrior River.

Obviously, reliance upon Alabama's efficient system of waterways has been a very integral part of Drummond Coal Company's planning and operations to date. Availability of an economical and efficient mode of transportation is important to any industry in getting the product to market; however, because of the national and international markets for coal, efficient transportation modes are even more critically important to the coal industry.

This reliance by Drummond Coal Company on the Warrior-Tombigbee System and the Port of Mobile is seriously threatened by the 1987 fiscal year budget proposals for the Corps of Engineers. Reduced operation and maintenance for the Warrior-Tombigbee would be crippling for the coal industry in Alabama. The amount planned for the O & M money for the Warrior-Tombigbee is inadequate based on past history of the water system. The amount proposed for BWT Operations & Maintenance is $11.9 million. This would probably support the bare bones operations tasks, but would not allow the continuation of the on-going deficiency correction program. For example, actions underway for several years to improve dredging disposal and reduce shoaling would have to be discontinued or terminated. Continuing these programs are critical to the efficiency and reliability of the navigation channel and to the reduction of future maintenance costs. We need the "additional capability" funding.

By transporting its high quality coal product by an available and efficient waterway system, Drummond has been able to compete with other coal exporting nations in a successful manner and has contributed to reducing the current national trade deficit.

To date, significant delays are caused in the efficient movement of traffic on the Warrior-Tombigbee System by use of the small, pre-World War II, Oliver Lock located on the Warrior River. Because this lock is able to handle only a four barge tow, this necessitates having to break down the barge configuration prior to moving through this lock which, even with a six barge tow, amounts to doubling the lockage time necessary to move through this lock. This one lock alone creates a bottleneck in the orderly flow of traffic on the Warrior-Tombigbee System. The budget proposes $10.5 million to initiate construction of the new Oliver Lock. Approval of this amount is critical to the timely and efficient contract placement to remove this dangerous and costly bottleneck.

Drummond Coal Company is a member of the Warrior-Tombigbee Development Association. We strongly support the testimony given today by Mr. Offa S. Nichols, Jr., President of the Association, and heartily endorse the collective effort of the Association to improve the efficiency and reliability of the Warrior-Tombigbee Waterway. Traffic on the waterway presently represents only a small percentage of the river's ultimate capacity; given the needed improvements to the Oliver Lock and a continued commitment to a federally constructed and maintained inland waterway system are granted. Certainly, the federal investment in the Warrior-Tombigbee River System has paid dividends many times over with the improved economic development is the area which the Warrior-Tombigbee River System serves.

STATEMENT OF DAVID VOLKERT & ASSOCIATES, INC., MOBILE, AL

David Volkert & Associates, Inc. is one of the largest design engineering/architectural planning firms in the State of Alabama, and we wish to make known our support of the Warrior-Tombigbee project and the efforts extended by the Warrior-Tombigbee Association to restore funding to adequate levels.

With Alabama offices located in Mobile and Birmingham, David Volkert & Associates, Inc. is aware of the importance of the Warrior-Tombigbee Waterway, not only to our company which employs over 200 people, but to our state and nation as a whole. Since Mobile's largest industry is its port, the further development of this Waterway would not only add to Mobile's commerce and industry, fueling monies into its economy and providing needed jobs for its people, but would also improve the efficiency and reliability of the Warrior-Tombigbee Waterway and the Port of Mobile. This improved capability and reliability would allow for lower operating costs, higher energy efficiency, and added importance to local, national and international trade. With the shipments of coal, iron ore, farm products, and related products expected to triple in the future, the Warrior-Tombigbee is increasingly important to maintain the serviceability of our waterway system.

Confidence in the Waterway and its efficiency and modernization are important in bringing new industry to this area. Farmers in 21 counties in Alabama ship their grain to Mobile on this Waterway for export. To the Mobile area, with unemployment still ranking among the highest in the nation and with basic industry still struggling to become competitive and back on its feet, the modernization of the Waterway is essential. Lower operating costs to users of the Waterway and Port are essential to obtain a reasonable balance of the international export market allowing the U.S. to reduce our trade deficit. Increases in shipping and commerce result in opportunities for many companies, similar to DV&A, to obtain business and offer meaningful employment to citizens of the State of Alabama and other parts of the country.

Although we support the Corps of Engineers' budget request for the Warrior-Tombigbee and Mobile Harbor for O&M and planning funds, we feel additional funds should be made available in order to allow for continuation of channel improvements already underay, which are designed to reduce future costs.

We appreciate this opportunity to express to you our support of Col. Nichols, President of Warrior-Tombigbee Development Association, and the testimony to be given by him before the Appropriations Committees of the Senate and House. We are proud to join in the collective effort to improve the efficiency and reliability of the Warrior-Tombigbee Waterway and the Port of Mobile.

STATEMENT OF DRAVO BASIC MATERIALS CO., INC., MOBILE, AL

The Warrior-Tombigbee Waterway along with the other waterways of the State of Alabama are invaluable links to a successful Port of Mobile and the economic growth in South Alabama. Offa S. Nichols, Jr., President of the Warrior-Tombigbee Development Association, will present testimony stressing the need for maintaining and enhancing the efficiency and reliability of the Warrior-Tombigbee System as well as the importance of low-cost, energy efficient water transportation to local, national and international trade. We fully support and endorse his testimony.

Dravo Basic Materials Company, Inc. is one of the leading producers of construction raw materials and aggregates on the Gulf Coast. We rely extensively on the waterways of Alabama, Florida, Louisiana, Mississippi and Texas for production and delivery of our products. In 1985 we transported via Alabama waterways in excess of 1,400,000 tons of sand and gravel. We also transported over 125,000 tons of limestone as well as significant quantities of other products. Our projections for 1986 are:

Sand and Gravel	1,500,000 tons
Other	250,000 tons

Dravo Basic Materials Company, Inc. operates a fleet of 23 boats, 85 barges and 7 dredges. We maintain a large terminal and handling facility on McDuffie Island in Mobile, Alabama in addition to numerous support facilities throughout South Alabama and the Gulf Coast.

The maintenance of authorized project dimensions is essential for the efficient, orderly production and delivery of materials throughout the waterway system. In order to provide this capability, it is imperative that the Army Corps of Engineers be provided with the appropriations necessary to continue the maintenance and development of the Warrior-Tombigbee Waterway System as requested in the fiscal year 1987 budget.

It is also requested that additional funds be provided to insure that the Corps has the capability and flexibility necessary to maximize the utilization of the Waterway System and Mobile Harbor. Additionally, the provision for planning funds to replace the outmoded Oliver Lock should not be overlooked.

We sincerely appreciate the Committee's faith in the future of the State of Alabama and welcome its continued support of these vital projects.

STATEMENT OF CBI SERVICES, INC., BIRMINGHAM, AL

On April 14, 1986, the Warrior-Tombigbee Development Association will be giving testimony before the Appropriations Committee of the Senate on FY87 Corps of Engineers funding for the Warrior-Tombigbee Waterway and Port of Mobile. The group will be led by Mr. Offa S. Nichols, Jr., president of the Development Association.

As a member of this association, we have participated in the collective efforts to improve the efficiency and reliability of the Warrior-Tombigbee Waterway, because it results in lower fright costs for our products and contributes significantly to efficiency in energy consumption. The importance of this in enhancing local, national and international trade is clear.

In early 1970, my company commenced construction of a multimillion dollar fabricating facility on the Warrior River in Cordova, Alabama, which opened for business in 1974. This plant is equipped to fabricate, machine, weld, test and load onto barges extremely large and heavy steel vessels for use in the nuclear and petroleum industries, as well as in other industries such as chemical processing, pulp and paper, water and waste treatment and others. A significant part of our present capacity is dedicated to work on important Department of Energy and Department of Defense contracts. We anticipate that this type of work will continue for a considerable length of time at our Cordova facility.

We strongly support the Corps of Engineers' budget request for O&M construction funds for the BWT and Mobile Harbor. We do feel, however, that the amount proposed will support only minimal operations tasks and will not be sufficient to allow continuation of actions underway for several years to improve dredging, disposal and reduction in shoaling. These programs are critical to the efficiency and reliability of the navigation channel and to the reduction of future maintenance costs, and we feel additional funds should be made available for these programs.

STATEMENT OF PARKER TOWING CO., INC., TUSCALOOSA, AL

My name is Tim Parker, Jr., and I am Executive Vice President of Parker Towing Company, Inc. I wholeheartedly endorse and support the testimony of Colonel Offa Nichols, President of the Warrior-Tombigbee Development Association. I join with him and other members of the Warrior-Tombigbee Development Association in efforts to improve the efficiency and reliability of the Warrior-Tombigbee Waterway.

Parker Towing Company operates a fleet of one hundred fifteen (115) hopper barges, thirteen (13) towboats and four (4) tank barges. We have been providing barge transportation service to shippers on the Warrior-Tombigbee Waterway for fifty (50) years.

The Warrior-Tombigbee Waterway and Port of Mobile are not only important to my Company and industry, but it is a vital part of the economic well being of Alabama. Most of the coal exported from Alabama, through the Port of Mobile, moves to Mobile via the Warrior-Tombigbee Waterway. Agricultural products also move in considerable volume via the Warrior-Tombigbee for export. On almost any given day, you will find a wide variety of items being shipped by barge including not only coal and agricultural commodities, but also forest products, iron and steel articles, petroleum and chemical products, paper products and cement, just to name a few. This broad spectrum of products shipped on the Warrior-Tombigbee Waterway clearly indicates the widespread economic impact that this waterway has on business in Alabama.

As a member of the Warrior-Tombigbee Development Association, I support the U. S. Army Corps of Engineer's Operations and Maintenance (O & M) Budget request, but I respectfully request that additional funds should be made available to insure both an adequate O & M program as well as the continuation of the ongoing deficiency correction program. Sufficient funding for O & M and deficiency correction will lead to continued competitive barge transportation costs for Alabama shippers. Anything that we can do to make these shippers more competitive will lead to increased activity by our area's industry and to increased employment.

In closing, let me reiterate that the operation of the Warrior-Tombigbee Waterway is of great importance to not only myself and my firm, but to the people of our region.

STATEMENT OF AMERICAN COMMERCIAL BARGE LINE CO., HARAHAN, LA

I am writing on behalf of American Commercial Barge Line Company to express our support of the Warrior-Tombigbee project and to suggest increases in the operating budget for the Corps of Engineers. As you may know, our company operates a fleet of towboats and barges on the inland river and canal system. We provide a cost effective transportation link between America's inland industries and its foreign shipping ports. One of the waterways upon which we operate is the Warrior-Tombigbee system which flows to the port of Mobile, Alabama. Our current operation in this area includes transporting coal from Holt, Alabama, Port Osborne, Alabama, and Coal Systems Inc. dock at Mile 372 on the Warrior River to Gulfport, Mississippi. We project shipments of coal and chemicals on this river system totaling over 1.0 million tons in 1986. For many years, the Warrior-Tombigbee system was limited to four barge tows because of narrow channels, rocky bottoms, and old inefficient locks. Recent improvements in the waterway have expanded the river to six barge tow capacity. These improvements have drastically increased our company's efficiency and consequently lowered the cost per ton of material moved. Continued channel maintenance and replacement of Oliver Lock will allow our company and others to provide cost efficient, reliable transportation of commodities through the Port of Mobile. We actively support the efforts of the Warrior-Tombigbee Association because we feel its work is of great importance to the Port of Mobile, the Gulf Region of the United States, and the country as a whole. We urge your subcommittee to carefully consider and highly credit the testimony of the Association's President, Mr. Offa S. Nichols. Our company applauds the efforts currently being made by the Federal Government to reduce waste and trim the budget. We must caution, however, that the transportation links of our nation must not only remain strong, but they must continue to grow and improve to keep abreast of foreign competitors. The health of American industry depends on its ability to be cost competitive.

This brings up the matter of the proposed Corps of Engineers budget for Fiscal Year 1987. While we support the Corps' budget request, we feel the funds allotted are inadequate for proper operations and maintenance of the Warrior-Tombigbee river system. The Operations and Maintenance budget of $11.9 million is probably sufficient for maintaining a navigable channel, but this amount is insufficient to fund the continuing deficiency correction program. This river system needs to be improved as well as maintained. We applaud the funding for the replacement of Oliver Lock. This will bring real benefits to all the users of the river.

We hope you will carefully consider the comments made in this letter, and if we can be of further assistance to your subcommittee, do not hesitate to contact our company.

STATEMENT OF WARRIOR & GULF NAVIGATION CO., CHICKASAW, AL

I am Nicholas J. Barchie, Jr., President of Warrior & Gulf Navigation Company. Our company is a member of the Warrior-Tombigbee Development Association and thereby supports the testimony to be presented by Mr. Offa Nichols as President of the Association. In the following paragraphs, we wish to address the utmost importance the Warrior-Tombigbee Waterway and the Port of Mobile means to our company.

Warrior & Gulf Navigation joins in a collective effort to improve the efficiency and reliability of the Warrior-Tombigbee Waterway due to lower costs, energy efficiency, and the major importance it has on domestic and international trade; e.g. low transportation costs via water is imperative to the coal producers, steel producers; farmers and paper companies in Alabama to maintain competitive prices in the world market in the movement of their coal, grain, steel and forest products.

Warrior & Gulf is a barge line located in Chickasaw, Alabama and owns 27 towboats and 310 barges making us one of the larger water carriers operating on the BWT system. With our current equipment ownership our annual capacity is approximately 10,000,000 tons. Additionally, we operate a coal handling and iron ore facility and one barge drydock at Port Birmingham; one barge drydock and one boat drydock at our Chickasaw facilities; and, a wholly owned subsidiary of Warrior & Gulf, Mobile River Terminal, is another bulk terminal handling various cargoes from and to ocean-going vessels in the Port of Mobile. Our total employment is 350 people.

Warrior & Gulf provides barge transportation on the BWT System for coal (domestic and export), iron ore, iron and steel products (export, import and domestic), scrap, gypsum and many other types of bulk commodities. With the recent opening of the new pipe mill and the start-up of the large blast furnace at Fairfield, Alabama during 1985, along with projected increases in coal consumption during the next few years we contemplate increases to materialize in our steel, iron ore and coal shipments; thereby, requiring an efficient and properly maintained waterway more important than ever to WGN and the Port of Mobile in our efforts to accommodate the increased demand.

Warrior & Gulf began using the Warrior-Tombigbee Waterway in 1940. During 1982, our capital investment for new equipment approximated $20,000,000 and in 1985 another $2,000,000 in order for our company to continue providing economic water transportation to its customers on this waterway.

The primary limitations encountered in operating the Warrior-Tombigbee System continue to be Oliver Lock and shoaling along this waterway. The mere fact that Oliver Lock was constructed prior to World War II makes it very unreliable and inefficient to handle our six and eight barge tows. With the severely depressed business levels being experienced in the waterway industry, Warrior & Gulf has recently had to increase its tow sizes from six (6) barge to eight (8) barges as a steady diet on this waterway with Oliver Lock being the only lock remaining that cannot accommodate our eight (8) barge tows, thus requiring us to make a double locking. Our delay time often runs 12 to 18 hours or more awaiting our turn to lock through at Oliver Lock with the projected increases in tonnage on the Warrior-Tombigbee System in the foreseeable future this impediment and our delay time will increase more as this lock becomes further saturated. Moreover, the budget proposes $10.5 million to initiate construction of the new Oliver Lock. Approval of this amount is critical to the timely and efficient contract placement to remove this dangerous and costly bottleneck.

Historically, our shoaling problem varies greatly from season to season dependent upon the length of our high water season (December - April) and the amount of flooding that occurs, e.g. during the season where the river stages run 60 feet or more for prolonged periods causes the shoaling to become more severe. Accordingly, the proposed amount for the Warrior-Tombigbee System's Operations & Maintenance is $11.9 million. At best, this will probably support the bare bones operations tasks; however, it does not allow for the continuation of the on-going deficiency correction program. For example, actions that have been underway for several years to improve dredging disposal and reduce shoaling would have to be discontinued or terminated. Continuation of these programs are very critical to the efficiency and reliability of the navigation channel and to the reduction of future maintenance costs. Simply stated, we need the "additional capability" funding.

In closing, we wish to confirm our support for the Corps' budget request for O&M and construction funds for the Black Warrior-Tombigbee System and Mobile Harbor; however, we strongly feel additional funds should be made available to ensure both an adequate O&M program and continuation of the channel improvement work on the BWT.

We respectfully request your continued support and assistance as your subcommittee considers appropriation of funds for these very important issues concerning the Black Warrior-Tombigbee System and Mobile Harbor.

STATEMENT OF WILLIAM A. POWELL, JR., VICE CHAIRMAN OF THE BOARD, AMSOUTH BANK, BIRMINGHAM, AL

I am certain that testimony before your committee will point out how vital the Warrior-Tombigbee Waterway is to the State of Alabama and to our economy. Our bank, the largest financial institution in Alabama, serves communities and people throughout the State, many of them located along the waterway or nearby, who depend on this river system for a major portion of their economic well-being.

I serve as a director of the Warrior-Tombigbee Waterway Association (and as its secretary-treasurer) and have worked with the association for a number of years. From my perspective, the amount of appropriation proposed for operations and maintenance of this system—$11.9 million—will not suffice to support dredging disposal, reduction of shoaling, and other necessary programs to keep the waterway in the condition that is necessary.

The new Oliver Lock (with a budget proposal of $10.5 million) is also vital to the continued use of the river system.

I support that program as well as the appropriate funding for operations and maintenance and other construction on the system and in Mobile Harbor.

I appreciate your consideration.

STATEMENT OF DIXIE CARRIERS, INC., HOUSTON, TX

This statement is sent to you on behalf of Dixie Carriers, Inc. Dixie Carriers, Inc., is a major diversified water carrier which provides service to the public through the transportation of all types of bulk cargoes. Our area of operations is the inland waterways of the United States.

Dixie Carriers, Inc., has operated on the Warrior-Tombigbee system for many years. We also utilize the Port of Mobile on a frequent, regular basis for both inland and offshore operations.

The recent opening of the remainder of the Warrior-Tombigbee Waterway has created additional opportunities for water transportation. Chemicals and coal, moving to and from the Tennessee River by water and other modes, will now have an alternate, and in many cases more economical, route. The waterway also provides a relatively ice-free route to service ports on the Tennessee and lower Ohio Rivers if the Mississippi River is restricted by ice in the winter months.

The importance of adequate funding for the waterway and the Port of Mobile is paramount. We support the current Corps of Engineers budget request for O&M and planning funds. However, additional funds should be made available to provide levels which will allow adequate O&M programs and the continuance of channel improvements.

STATEMENT OF FIRST ALABAMA BANK, MOBILE, AL

The Port of Mobile is a major factor in the economy of Alabama and the U.S. gulf coast. Important to us are those factors impacting this economy and, certainly, the Warrior-Tombigbee Waterway is a vital factor in this area. It serves the manufacturing and mining region and all the agricultural areas and industrial production facilities in western Alabama. The waterway has served as an economic stimulant for 100 years, having been periodically improved until today, it is a modern system with one major exception—the Oliver lock and dam, which needs replacing.

This waterway is currently handling most of the coal moving out of Mobile for export. Many basic materials move on this system and it is important that funds for an adequate operations and maintenance program be appropriated for the BWT. The budget item requested by the Corps of Engineers is not adequate, based on past history. This should be carefully considered.

The Corps of Engineers report on the replacement of Oliver Lock has now been approved by the Board of Engineers for Rivers and Harbors, and they are ready to commence construction for this replacement. We request $10.5 million to initiate this program. It is important that this continuing process not be interrupted.

The moneys we are requesting are a valid investment by the Federal Government, which will continue to be matched many times over by local investment.

STATEMENT OF HARBERT INTERNATIONAL, INC., BIRMINGHAM, AL

The Warrior-Tombigbee Waterway is a vital transportation link in the State of Alabama. It provides for the most economical transportation of products of the mines, the iron and steel industry, agriculture, forest, and other commodities, most of which are destined to the Port of Mobile for export, thus enhancing the U.S. balance of payments. The waterway is a vital source of employment for thousands of people engaged in the above industries, as well as barge operations and shipyards.

We strongly support the funding for the required improvements, including the replacement of the 48-year-old, outmoded Oliver Lock, as well as the funds required for operation and maintenance of the waterway.

The budget proposal of $11.9 million for operations and maintenance of the Warrior-Tombigbee Waterway is probably sufficient for minimal operations but would not allow for improvements in dredging disposal and reducing shoaling which is critical to the efficiency of navigation and reduction of future maintenance costs.

The $10.5 million proposal in the budget to intiate construction of the new Oliver Lock is a must to continue the waterway as a viable transportation facility for the future.

A more efficient waterway ensures the continued growth of industry and is conducive to further economic development in an area with one of the higher unemployment rates in the Nation.

We support the testimony to be given by the president of the Warrior-Tombigbee Development Association and hope that the importance of his comments will be well taken by the Appropriations Committee.

STATEMENT OF HARRISON BROTHERS DRY DOCK & REPAIR YARD, INC., MOBILE, AL

Harrison Brothers Dry Dock & Repair Yard, Inc., has been in continuous operation since 1895, and we depend upon the repair work generated by the inland navigable waterways of Alabama. In the midst of the prolonged depression in our industry, the Warrior-Tombigbee Waterway is vital to our continued survival. We are highly concerned that the $11.9 million operations and maintenance budget for fiscal year 1987 is inadequate to support the deficiency correction program of the waterway; for example, the improvement of dredging disposal and the reduction of shoaling. In order to reduce future maintenance costs, these deficiency correction programs will need more financial assistance. This will provide a more navigable Warrior-Tombigbee Waterway.

We are encouraged that the $10.5 million needed to intiate the construction of the new Oliver Lock has been proposed, and we heartily encourage this legislation. We would also like to support the Corps of Engineers budget request for the operations and management, as well as the construction funds for the Mobile Harbor and the Warrior-Tombigbee Waterway. We encourage your continued work toward the appropriation of these vital funds for our industry.

We would like to emphasize that the funds for our industry will continue to provide our industry with navigable waterways and viable facilities for the fuel-efficient, safe transport of cargo. We are very appreciative of your past work in this regard and we look forward to a favorable outcome in these matters.

STATEMENT OF HUNT OIL CO., TUSCALOOSA, AL

As concerned users of the Warrior-Tombigbee Waterway, we would like to state our reasons for supporting this waterway.

Hunt Oil Co. is a refinery that produces such products as all grades of gasoline, several types of asphalts, fuel oils, and coke. We receive approximately 21,000 tons of crude oil per month and approximately 20,000 of vacuum bottoms by barge. We, in turn, barge out approximately 20,000 tons of crackerfeed a month. The above tonnage represents millions of dollars in revenue. Our dock facilities, which were first built in 1946, are located on the Black Warrior River near the Olive lock and dam. We have an expansion in the scope for the Hunt Oil Co., thus producing more products that will need to be barged out or more barged in. As a matter of fact, we have now completed an asphalt-loading line that is being utilized for the first time.

One crucial reason for us needing the waterway is that we make a product called crackerfeed, named so because it is used in catalytic crackers. The only way we have of delivering this product is by the waterways. Fortunately, the refineries that we ship to are all over the intercoastal waterway.

With the opening of the Tennessee-Tombigbee Waterway, we anticipate the market in the North to open. We already have prospects to move an additional 100,000 tons/year to the Northern United States. This gives us an optimistic view of other job possibilities.

We also receive crude oil from international freighters; first off-loaded in Mobile into storage tanks, and then barged to our refinery.

Let me also state that with us having so much barge traffic, it is very important that moneys are needed for dredging operations to continue so we can maintain proper draft limits for traffic to move in an economical manner.

So you can gather how important our waterways are, due to lower costs and energy efficiency, in the operation of our refinery. We express deep concern over any delay or nonapproval of these much needed funds.

STATEMENT OF INTERNATIONAL PAPER CO., MONROEVILLE, AL

International Paper Co., as a long-time user of the Warrior-Tombigbee Waterway and member of the Warrior-Tombigbee Development Association, is vitally concerned and interested in the continued maintenance and improvement of subject waterway.

International Paper Co. has one of its largest primary mills in the Mobile area which is influenced a great degree on the abundant timber supply accessible by water. We currently are operating a fleet of one 1,600-hp towboat and a fleet of 34 deck and hopper barges on this waterway.

Our company has just completed a modernization program at our Mobile mill and some of the justification for this expansion was the moving of significant tonnage of hardwood pulpwood from this waterway.

We urge you to adequately fund the budget request of the Corps of Engineers for the fiscal year 1987 which would be sufficient for operation and maintenance of the waterway.

Our company recommends to you, the Subcommittee on Appropriations for Energy and Water Development, the testimony presented to you through the representatives of the Warrior-Tombigbee Development Association.

STATEMENT OF JASPER AREA CHAMBER OF COMMERCE, ALABAMA

The Jasper Area Chamber of Commerce by unanimous vote of its board of directo in regular meeting assembled on February 27, 1986, expressed its support for the Warrior-Tombigbee project as follows:

The Warrior-Tombigbee Waterway and Port of Mobile are important to the shipment of coal and future economic development in Walker County.

Construction of the new Oliver Lock is specifically important to this use. We, therefore, support the $10.5 million to initiate this project.

While we support the Corps of Engineers budget request, we feel additional funds should be made available to assure adequate work continue all along the waterway and Mobile Harbor.

Thank you.

STATEMENT OF MISSISSIPPI POWER CO., GULFPORT, MS

Col. Offa S. Nichols, Jr., president of the Warrior-Tombigbee Development Association, is appearing before your subcommittee in support of the waterway and the Corps of Engineers' budget request relating to the project. Mississippi Power Co., a user of the waterway, also supports Colonel Nichols' testimony. We are also requesting consideration be given to increasing the proposed funding level to ensure both an adequate operation and maintenance program and continuation of the channel improvement work for the BWT.

The cost of fuel is the single largest operating expense Mississippi Power Co. faces. Coal mined in the region served by the Warrior-Tombigbee Waterway provides us with a reliable, competitive source of fuel. Any deterioration of the reliability of shipping along the waterway would force the company to higher cost suppliers. The Warrior-Tombigbee Waterway has played an important role since 1976 in the delivery of coal to Mississippi Power Co.'s facilities. In 1985, approximately 949,000 tons, or 31 percent, of our coal purchases were shipped over this waterway.

Mississippi Power Co. operates in southeast Mississippi and provides electric service to over 171,000 customers. Our customers include several military installations, Federal Government agencies, and prime defense contractors.

Any deterioration in the ability to ship over this waterway, or an increase in our cost due to increased delays, would not only adversely affect all of these customers, including Federal installations, but would also impede future economic development in southeast Mississippi.

Your favorable consideration of the testimony on behalf of the Warrior-Tombigbee Development Association will be greatly appreciated.

STATEMENT OF MOBILE AREA CHAMBER OF COMMERCE, ALABAMA

This statement is presented on behalf of the 3,500 business members of the Mobile Area Chamber of Commerce in the support of the continued development of the Warrior-Tombigbee Waterway system.

The Port of Mobile, one of the top 12 ports in the Nation based on tonnage handled (export/import) is dependent upon the extensive waterway system. These waterways, including the Warrior-Tombigbee system, play a vital role in the movement of both domestic and international commerce. Over the years, as the records will confirm, the Warrior-Tombigbee system has grown annually in the amount of tonnage handled, primarily bulk materials, including, but not limited to, coal, ores, petroleum products, and other materials. The export of some of these commodities has assisted greatly in our balance of payments which continues to be a growing problem for our Nation.

Based upon the vital role of this major waterway system, we respectfully submit that the operation and maintenance budget for fiscal year 1987 is insufficient for the proper development of the waterway and request that consideration be given by your committee to increasing the funding to meet the Corps of Engineers capability on this project.

We further respectfully request that this statement be incorporated and made part of the record.

STATEMENT OF SOUTHTRUST BANK OF ALABAMA, BIRMINGHAM, AL

We wish to express SouthTrust Bank's strong support for the full operation of the Warrior-Tombigbee Waterway and the related port facility in Mobile, AL. Our entire State—including many of SouthTrust's customers—will benefit from the operation and improved efficiency of this vital transportation system.

In the long run, the ongoing viability of the Warrior-Tombigbee system will be a major contributor in the State's effort to attract new industry to central and west Alabama, while at the same time it will help existing companies to compete in world markets. In this connection, we have recently been involved in the formation of a lumber-based marketing cooperative which will utilize the waterway in routing product to export markets, and the improved logistics and projected transportation savings are integral to the co-op's profitability and success.

Specifically, we would like to endorse the proposed funding levels as the minimums necessary for operations, maintenance, and construction. Although $11.9 million for O&M will not permit the continuation of the ongoing deficiency correction program, it will allow for minimum operation. The $10.5 million for construction is essential to begin work on a new Oliver Lock, removing a dangerous and costly bottleneck.

In closing, let us reiterate our support of Offa Nichols in his testimony to you on behalf of the Warrior-Tombigbee Development Association.

STATEMENT OF TOM SOYA GRAIN CO., WEST POINT, MS

We began shipping soybeans and wheat on the Tenn-Tom in the spring of 1979. We were the first to take advantage of the opportunity to ship by water out of east Mississippi.

In the last 7 years we have moved approximately 475 bargeloads of grain out of our elevators at Aliceville, AL, and West Point, MS. We are also moving approximately 48 barges per year of bentonite south to Mobile. In addition, we have moved fertilizer, gypsum rock, and salt north to Columbus, MS. We are now moving 60 bargeloads of salt a year north to Columbus, MS. The completion of the waterway has brought numerous inquiries in regard to the movement of other commodities. We will soon be bringing together slag rock south to serve the county in which we operate. The future for transportation on the Tenn-Tom is unlimited.

We strongly support Mr. Offa S. Nichols, Jr., president of Warrior-Tombigbee Development Association, in his efforts to improve the efficiency and reliability of the Warrior-Tombigbee Waterway. We also support the Corps' budget request for O&M funds so that efficiency will not be impaired and planning for the future can be continued.

STATEMENT OF TENN-TOM TOWING, INC., MOBILE, AL

As a member and director of the Warrior-Tombigbee Development Association, as well as a regular user of the Warrior-Tombigbee Waterway, we wholeheartedly support the testimony given by the president of the Warrior-Tombigbee Development Association, Offa S. Nichols, Jr.

With the opening of the new Tenn-Tom Waterway this past year connecting the Warrior-Tombigbee and the Port of Mobile, with over 16,000 miles of navigable waterways throughout the United States, the importance and necessity of maintaining the Warrior-Tombigbee cannot be overemphasized.

In order for the Warrior-Tombigbee and the Port of Mobile to continue to have an efficient and reliable navigation channel. the Corps of Engineers must have more funds than the $11.9 million proposed for fiscal year 1987. This amount will not allow the continuation of the ongoing deficiency correction program and could only increase the future maintenance cost.

The approval of the Corps request for $10.5 million to initiate construction of the new Oliver Lock is critical to the timely and efficient contract placement to remove this dangerous and costly bottleneck.

We presently utilize the entire length of the Warrior-Tombigbee and work daily in and around the Port of Mobile. Without the constant operations and maintenance performed by the U.S. Corps of Engineers, it would not be possible for the barge traffic industry to continue to grow and provide this country with the most economical and energy-efficient mode of transportation available today.

We appreciate the opportunity of expressing our views on the Warrior-Tombigbee Waterway system and the Port of Mobile and want to thank you for your cooperation in the past and continued interest for the future of all waterways in our Nation.

STATEMENT OF UNITED STATES STEEL CORP., FAIRFIELD, AL

We would like to express our support of the Warrior-Tombigbee Development Association's efforts to assist the Corps of Engineers in obtaining sufficient funds to maintain and improve this essential waterway. United States Steel relies heavily on the Warrior-Tombigbee Waterway system as a means for transporting raw materials and finished steel products, as well as export of coil through the Port of Mobile.

Our corporation's decision to make recent large investments in this geographic location was influenced by the availability of reliable water transport. Current forecasts indicate that United States Steel will rely on the Warrior-Tombigbee Waterway for the movement of approximately 3.8 million tons per year.

We hope that you will provide the necessary support for maintenance and continuing development of this vital river system.

STATEMENT OF VULCAN MATERIALS CO., BIRMINGHAM, AL

We support the testimony of the Warrior-Tombigbee Development Association. We are part of the collective effort to improve the efficiency and reliability of the Warrior-Tombigbee Waterway and the Port of Mobile. Our plans for the future include the possible use of the waterway to ship crushed stone to the gulf coast to be used by the construction industry in concrete, asphalt, and road bases. The crushed stone will replace the rapidly depleting gravel, clam, and reef shells with a superior construction material. The upgrading of the waterway will not only benefit an area with unemployment still among the highest in the Nation, but will better utilize the lower cost, energy-efficient barge transportation.

We support the Corps' budget request for operations and maintenance for the Warrior-Tombigbee and Mobile Harbor, but we feel that additional funds should be made available to ensure both an adequate O&M program as well as a channel rehabilitation program. Funds should also be made available to initiate the construction for the replacement of the Oliver Lock which will be an investment in the future of our Nation and region, as well as Alabama.

STATEMENT OF JIM WALTER RESOURCES, INC., BROOKWOOD, AL

We would like to thank you for the opportunity to make a statement to your subcommittee. Please accept this statement for inclusion in your hearing record.

The Mining Division of Jim Walter Resources, Inc., mines approximately 10 million clean tons of coal per year. Of the amount, nearly 75 percent of our production is exported. Approximately half of our export production travels down the Warrior River and all our export production goes through the Port of Mobile. Our payroll for 3,000-plus employees last year was in excess of $100 million and taxes withheld and/or paid were in excess of $50 million. It is obvious from these facts and figures that this company relies heavily on our waterways and port facilities and that they are of the utmost importance to this company, its employees, and the economy of the State of Alabama.

Consequently, I urge you to consider increasing the proposed appropriation for Warrior-Tombigbee Waterway, Port of Mobile operations and maintenance. The amount currently proposed is inadequate and the job cannot and will not be done on this appropriation. An appropriation at this level threatens both the efficiency and reliability of our waterways.

The world coal business is at its most competitive level in history. News of any problems, especially transportation and delivery problems, is quickly spread by other coal producers around the world to the buyers to discourage purchases here. A blemish on our delivery record can have devastating, long-term effects from which we might never fully recover. Buyers lost today may never return tomorrow.

For these reasons, I support the Corps of Engineers budget request. Our waterways and port facilities provide economic prosperity to Alabama that is worthy of your support. Further, I support the statements and testimony to be given by Mr. Offa S. Nichols, Jr., president of the Warrior-Tombigbee Development Association. I believe that the value of improved efficiency and reliability of the Warrior-Tombigbee Waterway and Port of Mobile cannot and must not be underestimated.

Again, thank you for this opportunity to give my comments on this very important matter.

MOBILE HARBOR, AL

STATEMENT OF E.G. BROWNING, TRAFFIC MANAGER, ALABAMA STATE DOCKS

ACCOMPANIED BY JOHN McCARRON, MOBILE CHAMBER OF COMMERCE

Senator JOHNSTON. Next, we have Mr. E.G. Browning, traffic manager of the Alabama State Docks, and I believe Mr. John McCarrnon is with him from the Mobile Chamber of Commerce.

Mr. BROWNING. Mr. Chairman, I am E.G. Browning, general manager of traffic and transportation from the Alabama State Docks Department. With respect to your request, we have a statement from Robert M. Rabine, director of the Alabama State Department, we would like to submit to you and make the report of the record of these proceeding.

We will do that and just briefly say that we are here today to request the Corps of Engineers' budget allocation for $7.1 million for O&M for fiscal year 1987 for Mobile Harbor, and also on behalf of $15 million for a new construction project which is the allocation for starting the channel deepening program which will be from 40 to 55 feet.

Senator JOHNSTON. Thank you very much, Mr. Browning.

Mr. McCarron?

Mr. McCARRON. Thank you. I am John McCarron, Jr., representing the Mobile Area Chamber of Commerce from Mobile. I have a prepared statement which I request be made part of these hearings. As per your request, just a couple of highlights. We note that $15 million has been budgeted for fiscal year 1987 for the initial phase construction and deepening the harbor to 55 feet.

We strongly recommend that that be approved, because it will have an immediate effect of allowing a lot of our commodities to become competitive in this world market that we are in at the present time.

In addition, we have certain other projects, such as the dredging of the Mobile Harbor, as Mr. Browning indicated, the feasibility study, Dauphin Island Channel, Fowl River, and also a very needed drainage project at Three Mile Creek. We respectfully request that all of these be approved. Again, I want to thank you for allowing us to appear before you and appreciate it.

Senator JOHNSTON. Thank you very much, Mr. McCarron. I appreciate you all being here.

[The statements follow:]

STATEMENT OF ALABAMA STATE DOCKS DEPARTMENT

On behalf of the Alabama State Docks Department and the Port of Mobile we appreciate the opportunity to appear before this Committee today and offer this statement in regard to Fiscal 1987 appropriation measures relative the Mobile Harbor.

The Alabama State Docks Department is the terminal facilities operator for the Port of Mobile and operates and maintains port handling facilities which include a Bulk Material Handling Plant, Public Grain Elevator, Export Coal Handling Terminal, general cargo facilities including wharves, piers and warehouses as well as a Terminal Railway. The Port complex entails approximately 1445 acres and is valued in excess of $500 million.

The primary cargoes handled through the Port of Mobile include inbound ores such as bauxite, manganese, magnesite, ilmenite, iron ore and steam coal. Grain exports include soybeans, corn, wheat, oats, middlings, and screenings. Coal for export constitutes a major cargo as well as outbound crude oil which moves to the Port from recovery operations in Florida and North Mobile County.

During the past ten years the Alabama State Docks Department and the State of Alabama have expended in excess of $250 million on renovations, expansions and improvements to the Port handling capabilities at the Mobile facilities.

These funds have been expended to meet the required present cargo handling capability of tonnage generated by our in-place inland river system, the five trunk line railroads serving Mobile, and forty-five truck lines which initiate and terminate cargo in Mobile.

A complete Port renovation program impacting each of the four terminal operating facilities at Mobile has been completed and the Port's handling capability in all areas has been increased and that increased capability provided an emphasis for escalating tonnage at Alabama State Docks' facilities last year. Export coal handled through the McDuffie facilities increased by 1.5 million tons and export grain moving through the Public Grain Elevator increased by almost a million tons.

Programs which we have previously discussed with this Committee with respect to the acquisition of additional spoil disposal sites and subsequent diking improvements thereon have been completed while others are under contract at this time.

As Director of the Alabama State Docks Department I am supporting the Corps of Engineers Budgeted Allocation for Fiscal Year 1987 in the amount of $7.1 million for Operation and Maintenance functions in the Mobile Harbor for Fiscal '87 and respectfully request that this Committee approve that Budgeted Allocation.

The Alabama State Docks Department and the Governor of the State of Alabama jointly support the deepening of Mobile Harbor to a depth of fifty-five feet to accommodate the very large bulk carriers under the MOBILE HARBOR DEEPENING AND IMPROVEMENT PROGRAM.

The Alabama State Docks Department, the State of Alabama, and the U. S. Army Corps of Engineers have jointly planned an environmentally sound and economically feasible phased approach to the new construction project.

The Project authorized in Public Law 99-88 permits a phased development of the Project Deepening and the Alabama State Docks, State of Alabama and the Corps of Engineers are proposing to commence the initial phase of work which will include the construction of a new turning basin and additional anchorages on the Mobile River at the confluence of Mobile River and Mobile Bay just east of the McDuffie Island Export Coal Terminal.

This initial phase of work will be extremely timely to the project and will offer immediate benefits for the turning and handling of bulk cargo vessels at the south end of the Harbor facilities.

We would respectfully request this Committee to approve the Budgeted Allocation for new work of $15 million set out in the Fiscal 1987 Budget for Mobile Harbor.

We again appreciate the opportunity to appear before this Committee and voice our support in concert with that of Governor George C. Wallace for the requested Budgeted Allocations as well as this Committee's continued cooperation with the U. S. Army Corps of Engineers with respect to the Mobile Harbor Projects.

We respectfully request that this statement be incorporated in and made a part of the permanent record of these Hearings.

STATEMENT OF PORT AND WATERWAYS TASK FORCE, MOBILE AREA CHAMBER OF COMMERCE

ON BEHALF OF THE MOBILE AREA CHAMBER OF COMMERCE WE APPRECIATE THE OPPORTUNITY TO APPEAR BEFORE THIS SUBCOMMITTEE TODAY AND OFFER THIS STATEMENT IN REGARD TO FY 1987 APPROPRIATION MEASURES FOR MOBILE AREA PROJECTS.

MR. CHAIRMAN WE ARE PLEASED TO NOTE THAT THE FY-1987 BUDGET INCLUDES FUNDS IN THE AMOUNT OF $15 MILLION FOR INITIAL PHASE CONSTRUCITON WORK IN CONNECTION WITH THE DEEPENING OF THE MOBILE HARBOR TO A DEPTH OF 55'. WE WOULD RESPECTIVELY REQUEST THIS COMMITTEE TO APPROVE THIS BUDGET ALLOCATION FOR NEW WORK OF $15 MILLION WHICH HAS BEEN SET UP IN THE FY-1987 BUDGET FOR MOBILE HARBOR. THERE ARE OTHER LOCAL WATERWAY PROJECTS THAT ARE VITAL TO THE MOBILE AREA, INCLUDING OPERATION AND MAINTENANCE DREDGING OF THE MOBILE HARBOR, AS WELL AS PROJECTS VITAL TO THE COMMERCIAL FISHING AND RECREATIONAL INTERESTS WHICH ARE UNDER BUDGETED. THE CORPS APPROVED CAPABILITIES WE RESPECTFULLY SUBMIT SHOULD BE NOTED AND WE ARE LISTING THESE BELOW AS FOLLOWS:

PROJECT	AMOUNT BUDGETED	TOTAL CORPS CAPABILITY
MOBILE HARBOR	$7.1 MILLION	$ 9.3 MILLION (DREDGING)
BAYOU LA BATRE CHANNEL	$ 60,000	60,000 (FEASIBILITY STUDY)
CODEN CHANNEL	————	$141,000 (DREDGING)
DAUPHIN ISLAND CHANNEL	$560,000	$560,000 (DREDGING)
FOWL RIVER	$134,000	$293,000 (DREDGING)
THREE MILE CREEK	$2.3 MILLION	$ 2.3 MILLION (CONSTRUCTION)

MR. CHAIRMAN, WE FURTHER REQUEST THAT THE FY 1987 BUDGET BE INCREASED TO THE CORPS CAPABILITIES ON THESE PARTICULAR CHANNEL PROJECTS, SO THAT THEY MAY BE PROPERLY MAINTAINED PRIMARILY FOR THE IMPORTANT COMMERCIAL FISHING INDUSTRY AS WELL AS THE SPORTS FISHING INDUSTRY OF OUR LOCAL AREA.

ON BEHALF OF THE MOBILE AREA CHAMBER OF COMMERCE AND THE PORT OF MOBILE WE ARE REQUESTING THAT THIS SUBCOMMITTEE CAREFULLY REVIEW THE BUDGETED ALLOCATIONS, EXAMINE THIS TESTIMONY, CONFER WITH THE MOBILE DISTRICT OF THE CORPS OF ENGINEERS FOR SUBSTANTIATION AND APPROPRIATE ADEQUATE FUNDS TO ALLOW THE CORPS TO INSTITUTE AND COMPLETE A PROPER MAINTENANCE DREDGING PROGRAM ON PROJECTS THROUGHOUT THIS AREA DURING FY 1987.

AGAIN, I APPRECIATE THE OPPORTUNITY TO APPEAR BEFORE THIS SUBCOMMITTEE TODAY AND I THANK YOU FOR YOUR INTEREST AND CONSIDERATION. WE WOULD RESPECTFULLY REQUEST THAT THIS STATEMENT BE INCORPORATED IN AND MADE PART OF THESE HEARINGS.

PREPARED STATEMENT OF CONGRESSMAN NATCHER OF KENTUCKY

Senator JOHNSTON. I understand that Congressman Natcher has sent us a prepared statement on projects in Kentucky which are of special interest to him.

That statement will be made part of the record at this point.

[The statement follows:]

STATEMENT OF REPRESENTATIVE WILLIAM H. NATCHER OF KENTUCKY

Mr. Chairman, again, we want you to know that we appreciate the opportunity to appear at this time on behalf of the projects in Kentucky. With the exception of one of our States, Kentucky has more miles of navigable streams than any other State in this country. Down through the years, we have suffered damages from floods and loss of life. You and the members of this committee have always been good to us and in each and every instance when we could justify our projects and the benefit-cost ratio was right, they have been approved.

Mr. Chairman, you and the members of your committee have been good, not only to Kentucky, but to all of our States which have projects that, when presented, were justified from the standpoint of benefit-cost ratio. We have attempted, down through the years, to present to you projects which we could justify and, with your help, have succeeded in bringing about a good water resource development program in the State of Kentucky.

In the Second Congressional District and in the section of Kentucky that I represent, we have completed and have in operation now five reservoirs—Rough River, Nolin River, Barren River, Green River, and Taylorsville Lake. All of these projects have produced many benefits for our people and especially during the past 2 years when we have suffered millions and millions of dollars in damages as a result of flood conditions.

I want to join with my colleagues, not only in Kentucky, but in the other States who are interested in the TVA proposal now before the committee and also the proposal concerning the Land Between the Lakes in Kentucky. I do hope that the request concerning a severe reduction or deletion in these funds is turned down by your committee.

Mr. Chairman, I distinctly recall back some 30 years ago when we were making every effort to build the Tennessee Valley Authority system in order to produce more benefits for our people. Every effort was made to increase the authority and territory of this authority and certainly no effort was made to reduce the operation to the extent that our people in this section of the United States would suffer.

Mr. Chairman, as you know, some $830,000 has been expended for the Campground Lake project in my district, but so far, the Commonwealth of Kentucky has failed to join with the Corps of Engineers on this project. There is nothing further that you and the members of your committee can do at this time on this project, but I do hope that the next time I appear, we will be in a position to request additional funding for the Campground Lake project.

I join with all of my colleagues from Kentucky in the House and in the Senate in their requests for our State and their districts.

Mr. Chairman, I want to join with you and the members of your committee in all matters pertaining to the Ohio River. Certainly this is not the time to reduce operation and maintenance costs to the extent that at some time in the future we will be forced to appropriate considerably more money to bring the level back in line as a result of reductions now before the committee.

Again, I want you to know that I appreciate the opportunity to appear and I want to thank you and the members of your committee for the support and assistance we have always received down through the years.

APALACHICOLA-CHATTAHOOCHEE-FLINT WATERWAY

STATEMENT OF H. BAXTER HARCOURT, PRESIDENT, TRI-RIVERS WATERWAY DEVELOPMENT ASSOCIATION

ACCOMPANIED BY:
HOMER B. HIRT, JR., VICE-PRESIDENT, TRI-RIVERS
WILLIAM M. RUSHTON, DIRECTOR, ALABAMA DEPARTMENT OF ECONOMIC AND COMMUNITY AFFAIRS
LARRY LEE, EXECUTIVE DIRECTOR, TRI-RIVERS

Senator JOHNSTON. Finally, we have witnesses on behalf of the Apalachicola-Chattahoochee-Flint Waterway, Mr. Harcourt and Mr. Larry Lee, accompanied by Mr. Homer Hirt, Jr., vice president, Tri-Rivers, William M. Rushton, director of the Alabama Department of Economic and Community Affairs, and Larry Lee, director of Tri-Rivers.

Mr. HARCOURT. Thank you, Mr. Chairman.

We will, with your kind permission, file our prepared statement for the record.

I would make one or two observations to the committee, if I may, sir. The Tri-River Waterways Association is somewhat unique. We have three States involved, and any time you try to get two counties in south Alabama or two counties in south Georgia working together, it is a real challenge. But when you have the State of Alabama and the State of Georgia and the State of Florida all working together, then that is a real big challenge. But so far, we have been quite successful in this.

What we recognize, Mr. Chairman, is the fact that the dollar does not know where the high water mark is on the banks of the Chattahoochee.

So we find that, as I practice law in Columbus, GA, I know that people who work in Georgia also live in Phenix City, and vice versa. In fact, some of us in Georgia, even visit Alabama, occasionally. [Laughter.]

This has been one of our greatest assets, the fact that the people in these three States have been willing to work together and, although we do have some jealousy to appear occasionally, it is very seldom.

We have an increase in traffic this year on the Tri-River Waterway system, something over 200,000 tons.

But if I may, Mr. Chairman, I would beg to invite your attention to these figures: This past year we moved 1,237,274 tons of cargo on the system. We are told by the Corps of Engineers that we must have a substantial increase in that tonnage to justify the maintenance of the system.

Some 2½ years ago, through the efforts of the Georgia General Assembly, Georgia Ports Authority, and Tri-River Waterways Association, we employed a firm out of Baltimore, MD, to do a survey, and based on their survey, we came up with these figures: That they represent a saving in transportation costs alone of more than $6 million to industry of the region; and according to economic studies, this commercial traffic also represents 1,350 jobs; $22.5 million in personal income; and $1.95 million in State and local taxes in the ACF basin.

We would suggest to you that even though we are not moving tonnage that we expect to be moving in the coming months and years, we are contributing greatly to the economic stability of the basin which lies in all three States, and we are quite proud of this accomplishment.

As I sit here and listen to the testimony as to the tonnage and the costs of these other river systems throughout this great country of ours, I don't think that we can simply worry about tonnage alone. We have to look at the economic impact and how that affects not only the area involved, not what the system itself will lose, but the economic impact on the adjoining States and the entire Nation.

With those comments, and my thanks to this committee for their help in assisting us in the funding, the funding of the Corps of Engineers for the O&M coverage, O&M maintenance, I would ask to defer to Mr. Homer Hirt from Sneads, FL.

Mr. Hirt. If I could, just briefly, I operate a Jackson County Port Authority in Sneads, FL, just across the line from Alabama and Georgia. Several years ago, we came up here and asked for money to remove some rock ledges in the Apalachicola River; this was done in 1983.

Before that time, when I would contact anyone in the United States about moving product into the Tri-Rivers area, we would hear, "We have heard of that river and we do not want to come in."

The rock came out of the navigation channel in 1983. We went from 60,000 tons in our port to 208,000 tons. I have people waiting to move product in.

Today, at our port, we will handle product from four different States, today or this week. We will be handling coal from western Kentucky that occasionally also comes from Illinois; we are handling product out of Pascagoula into New Orleans.

Senator Johnston. What kind of products do you handle?

Mr. Hirt. We have handled everything from steel and scrap to fertilizer and coal. Our basic main commodity is coal out from western Kentucky for a local powerplant. We also handle local fertilizer for the tri-State area. We cross the lines for that. Earlier this year, we shipped peanuts out for export. It is a very versatile area and a very versatile river system.

Mr. Harcourt. Mr. Chairman, in that respect, the Georgia Ports Authority has had lash barges from Minnheim, Germany, bringing plastic pellets to Macon, GA. Those barges came by mother ship to New Orleans to the Intracoastal Waterway and up to Bainbridge.

We have also seen some 15,000 acres of corn last year grown from Georgia farmers in southwest Georgia shipped by lash barges to Japan for cash money, and this is just an example of the type of cargoes that we are seeing come in. We are seeing material that, prior to this time, was hauled out of St. Marks, FL, Douglasville, GA. Oil products for the making of asphalt, which initially came by trucks, is now coming into Columbus, GA, by barge and then being transported by trucks into Douglasvillle.

So, we have quite a variety of products, but we are told especially that on that fertilizer alone, a farmer can save $10 per ton when he brings his fertilizer in by barge over any other type of transportation.

Now, I would like to introduce to the committee our new executive director. You may recall that Eddie Summers was with Tri-Rivers for some 12 years. Eddie left us last year with regrets from the board of directors, and it is our pleasure to have been able to welcome aboard Mr. Larry Lee. At this time, I would introduce him to the committee.

Mr. LEE. Mr. Chairman, it is our pleasure to join you here today. We appreciate your allowing us to come before you with this testimony. I know that you are about ready to probably go on to something else, and we are all ready to go back to Alabama and Georgia and Florida. So, I won't prolong this, but I would say this, if you get a little extra shower in Louisiana, if you would share it with us in southeast Alabama and southwest Georgia, we would appreciate it. It is between planting time, and we appreciate it.

Senator JOHNSTON. We were drying Louisiana up until last week. I think we got a little bit of moisture recently.

Gentlemen, thank you very much. I know the hard work you have done to increase that traffic. You have worked hard on it. You worked in coordinating between the three States, and we appreciate it.

Mr. LEE. Thank you, sir.

[The statements follow:]

STATEMENT OF THE TRI-RIVERS WATERWAY DEVELOPMENT ASSOCIATION

SUMMARY

TRI-RIVERS WATERWAY DEVELOPMENT ASSOCIATION

REQUEST FOR FY 1987 FUNDING

The Apalachicola-Chattahoochee-Flint Waterway

Operations and Maintenance	$5,907,000
Studies (Continuation of "308"). .	$ 300,000

Thank you, Chairman Hatfield and members of the subcommittee, for this opportunity to present the needs of the Apalachicola-Chattahoochee-Flint Waterway as we see them.

I am Baxter Harcourt of Columbus, GA, president of the Tri-Rivers Waterway Development Association. Our organization is vitally interested in economic development in Southeast Alabama, Southwest Georgia, and Northwest Florida and for more than 25 years has worked to see that the ACF waterway is used to the benefit of all citizens of this three-state region.

The people of this area are proud and industrious people, and while the region is rich in both natural resources and heritage, frankly Mr. Chairman, we have been bypassed to a certain extent by the growth much of the Sunbelt has experienced.

One of the reasons for this is because of the lack of a good transportation network throughout this region that can serve as a catalyst for industrial development.

Our four-lane highways are limited and we're faced with the abandonment of rail service in many locations.

However, we have a transportation system that many other areas do not. This, of course, is the Apalachicola-Chattahoochee-Flint Waterway System. The ACF is an asset that you and the other members of your committee have championed for many years and we're grateful for your support.

Because of this support, commercial use of the waterway was at an alltime high in 1985 as we shipped 1,237,274 tons of cargo. This was the second straight year we've exceeded one million tons.

But these figures represent much more than just tons of fertilizer or grain or fuel oil. For one, they represent a savings in transportation costs alone of more than $6 million to industry of the region. And according to economic studies, this commerical traffic also represents 1,350 jobs, $22.5 million in personal income and $1.95 in state and local taxes in the ACF basin.

So it is clear that maintaining a viable and active waterway is vital to the well-being of our area.

This is especially true for agriculture. The problems besetting farmers and agribusinesses are well-documented. These problems are very real throughout Southeast Alabama, Southwest Georgia and Northwest Florida where agriculture remains our No. 1 industry.

Increasingly, agriculture is realizing how they can benefit from greater use of water transportation both to ship in fertilizers and chemicals and to ship out grains and soybeans. In 1985 our association held workshops in Alabama and Georgia to show agriculture how to take advantage of the waterway.

As you recall, the Corps of Engineers removed rock obstructions from the Apalachicola River in early 1984. Because we obtained a more reliable channel, we projected a substantial increase in tonnage.

These projections have proven correct and today we stand on the threshold of unparalleled growth up and down our waterway. Business at all six ports on the system is at an alltime high and the Alabama State Docks, the Georgia Ports Authority and the Jackson County, Florida Port Authority are all expecting this expansion to continue in 1986.

We are excited about this growth that is vitally needed and long overdue. And the experiences of the last two years tell us now is not the time to pull back our forces.

The Administration's budget for operation and maintenance for our waterway for the next fiscal year is $4,522,000. Yet the Corps of Engineers has a stated "capability" for this system of $5,907,000.

While we fully understand and appreciate the budget restraints the Congress is now coping with, we believe the figures clearly show that dollars devoted to continuing development of the ACF waterway are a sound and worthwhile investment.

Therefore, we strongly urge this committee to fund operations and maintenance of the ACF waterway for the full $5,907,000.

In addition, we wholeheartedly endorse the Administration's recommendation to appropriate $300,000 to the Corps to continue its basinwide "308" study.

Mr. Chairman, you and your fellow committee members have been loyal and faithful friends of our waterway efforts for many years. As a result, you have touched many lives in our region.

Again, we are grateful for this support and for your service to our citizens. We trust that this support will be unwavering.

Thank you.

FLORIDA WATER RESOURCE PROJECTS

Senator JOHNSTON. The subcommittee has received a prepared statement from the State of Florida, Department of Environmental Regulation, which covers Corps projects in that State.

Without objection, that statement will be made part of the record.

[The statement follows:]

STATEMENT OF VICTORIA J. TSCHINKEL, SECRETARY, FLORIDA DEPARTMENT OF ENVIRONMENTAL REGULATION

Good afternoon Mr. Chairman and members of the Subcommittee. I am Victoria Tschinkel, Secretary of the Florida Department of Environmental Regulation. I am pleased to discuss with you today Florida's Fiscal Year 1987 Program for Water Resources Development. Governor Graham strongly supports this program which is a request for appropriations of 84 million dollars for 45 projects and studies. I am submitting, along with my prepared remarks, a booklet containing project descriptions, justifications and costs for the 10 flood damage prevention, 14 navigation, 16 beach erosion control, and 5 environmental restoration proposals included in the 1987 program request.

Before I begin my specific remarks about Florida's FY 87 program I would like to discuss our ideas on the need to modify overall federal policy on water resource development.

As population increases and new development continue to place more and more pressure on the nation's water resources, it is time for us all to re-examine our traditional approach to management and protection of our water resources. In Florida, the federal government has played a major role in developing its water resources for over one hundred years. Today Florida has a population of over 11 million people, 4.8% of the nation's total. This number is expected to increase to about 15 million by the year 2000. In addition, Florida plays host to almost 40 million visitors each year. Our many water resources, combined with a warm subtropical climate, are major reasons for Florida's attraction to visitors and new residents. Our tremendous population growth places heavy pressure on Florida's water resources.

In an effort to protect and conserve these water resources, Florida has been actively engaged in the acquisition of floodplains, aquifer recharge areas, and important wetlands through several innovative land acquisition programs. Our Conservation and Recreation Lands Program, for example, has led to the acquisition of approximately half a million acres of environmentally endangered lands. The state's five water management districts have recently acquired title to over 1.6 million acres of wetlands. Over the last two decades, Florida has spent three-quarters of a billion dollars for the purchase of two million acres of natural areas. We will spend over a billion dollars more in the next decade. Most of these acquisitions are for wetlands or other areas closely linked to valuable water resources. The State of Florida is deeply committed to protecting its water resources.

It is clear that strong protection and good management of our water resources are in both the state's interest and in the federal interest. Traditional management and regulatory approaches will not be adequate to insure that our natural quality of life can be sustained. For example, major urban areas will require vastly improved stormwater systems which can both prevent flood damages and provide for adequate treatment of those waters to protect the estuaries which serve as breeding grounds for commercial seafood. Our 8,000 lakes and 10,000 miles of rivers are also in need of a basin-wide comprehensive approach to control nonpoint pollution and provide cost-effective solutions to help conserve top soil.

The Federal Government is uniquely qualified to work in partnership with the States to accomplish this goal. It has the research, engineering, and construction capability to address global problems. The Army Corps of Engineers needs to be assigned a new mission to help restore and protect wetlands, estuaries, and other degraded national waters to insure their availability for use by future generations. Its flood control responsibility should permit it to include retrofitting major urban area stormwater systems with both water quantity and quality controls.

Current concepts for defining the amount of federal participation in such projects should also be re-assessed. The selection of the alternative which maximized the net economic benefits is far too restrictive and overlooks the long term values of a protected or restored water resource. The State of Florida stands ready to work closely with the Federal Government in this endeavor.

Along more traditional lines, Congress has appropriated, over the last five years, $500 million for civil works projects and studies in Florida. These have yielded great benefits to both Florida and the nation. For this we thank you. We hope you will continue to strongly support the development of water resource projects. In view of the pending budget reductions, we must emphasize that our program represents our basic needs and highest priorities. It includes only 45 of the 59 proposals originally submitted to us.

Year in Review

Each year we come before you and present our program and funding requests. I would like to review some of the significant events and policies that have shaped or affected our program since I spoke to you last year.

Cross Florida National Conservation Area

First, I would like to take this opportunity to thank the Florida delegation and the Public Works and Transportation Committee for conducting a public hearing on the Cross Florida Barge Canal. We applaud the efforts of Congress to deauthorize further construction and to maintain the presently-constructed areas as a conservation area. A resolution to this effect is included in the Appendix of our booklet. We know that this Subcommittee is responsible for any appropriations necessary for the Conservation Area and commend it to you also.

FY 1986 Appropriations

Our FY 86 Program requested funding for 42 projects. Congress appropriated funds for 20 projects totalling $33.4 million. However, allocations to the Corps' offices in Florida amounted to only $24.6 million for 19 projects. The Corps attributes the $8.8 million dollar difference between the amount appropriated and actual allocations to "saving and slippage". We hope that we will not face this situation with the FY 1987 program.

Cost-Sharing

With the passage of the Gramm-Rudman-Hollings Deficit Reduction Action and current Administration policies, we anticipate a higher non-federal percentage of cost-sharing for our studies and projects. As a general policy, we believe that any changes in cost-sharing formulas which would increase state and local contributions should not apply to existing projects. We have, in the past, made contributions which are substantially higher than average to Army Corps of Engineers studies and projects.

We are very concerned that budget restrictions will narrow the focus of future projects and studies. The Corps should not be limited to studies which result in the construction of projects. Many studies result in solutions which will clearly help to protect the necessity for costly federal projects in the future. Floodplain management studies, like the Suwannee River Study for example, are very cost effective because they help the local sponsors develop policies and strategies which minimize the need for structural projects. For years, we have been stressing non-structural solutions to flood control and other water management problems over structural alternatives and the Corps has assisted us with these efforts.

More fundamental is the concern we have with the planning objectives of the whole public works program, as determined by the Administration. As I have already mentioned, we feel that National Economic Development and Environmental Quality should both be goals for public works projects and studies rather than National Economic Development alone as in the current "Principles and Guidelines". National policy must recognize the diverse goals of water resource management.

We also hope that higher local cost shares in planning studies will mean greater state and local participation in all aspects of Corps studies including the selection of alternatives.

Individual Projects

I would like to discuss some of the individual projects contained in our program. Again, they are in the categories of flood damage protection, navigation, beach restoration and environmental restoration and enhancement.

Flood Damage Prevention and Water Supply

Full funding is needed for one of the nation's largest and most complex water management systems: the Central and South Florida project. The project provides flood and hurricane protection and much-needed agricultural water supply. It affects the environment of much of south Florida, including Everglades National Park. Adequate appropriations for the C&SF Project are critical to the success of Florida's far-reaching program to "Save Our Everglades".

FY 87 funds will be used to continue planning for components such as C-111, which requires redesign to protect Everglades National Park. Funds will also permit continued work on the protection of Herbert Hoover Dike around Lake Okeechobee and the reconstruction of Hurricane Gates on the Lake.

A major component of the Central and South Florida Project is the Upper St. Johns River Project, which is now ready for implementation. We are very pleased with the draft General Design Memorandum issued last year and hope the Chief of Engineers will approve it very soon. The project will reduce flood damages and increase water supplies, while enhancing the natural environment. The St. Johns River Water Management District is using local property taxes to generate revenues for land purchases. Three-quarters of the $107 million project cost will be assumed by the local sponsor.

Many millions of dollars have been invested in the Four River Basins Flood Control Project. The FY 87 request is for federal matching funds to complete construction of an authorized wilderness recreation site.

Congress appropriated funds for water management studies of two undeveloped river basins -- the St. Marys and Suwannee Rivers. Continued funding would complement local and state efforts to preserve and protect these rivers and to provide flood protection. Adequate funding this year for the Suwannee River Study would bring it to completion.

Our program includes proposals for several water management and water supply studies -- for the areas of Broward County, coastal northwest Florida and for the St. Johns and Withlacoochee River Basins.

Navigation

The efficiency of its navigation is of prime importance to Florida as it is one of the nation's leading maritime states with ports whose influence is felt both regionally and nationally. The State of Florida is very interested in working with the Corps to improve the water quality in its ports and to minimize the negative environmental impacts of channel construction and spoil disposal from navigation projects. Funds for the Clearwater Spoil Disposal Study, Mill Cove Project, Lower St. Johns River Enhancement Study and Miami River Cleanup Project would be used for this purpose.

Our program also requests funding for preconstruction planning for three projects -- Ft. Pierce Harbor, Mexico Beach Inlet, and the Port of St. Petersburg Dredging Project. Other projects involving dredging and other navigation improvements are proposed for the Miami Harbor Channel, Port Canaveral, Port Everglades, Port Manatee and Tampa Harbor. Navigation improvement feasibility studies are proposed for the Jupiter Inlet and for Port Canaveral. All of these should contribute substantially to National Economic Development.

Beach Erosion Control

When people think of Florida, the image of a beach often comes to mind. Beaches are, by far, the largest attraction for the 40 million people who visit Florida each year. We have over 775 miles of coastline with sandy beaches in Florida. Over 140 miles are experiencing critical erosion.

This past fall, our Gulf Coast beaches were hit hard by the back-to-back hurricanes, Elena and Kate. This exacerbated an already serious situation in areas such as Pinellas County where miles of coastline are altogether devoid of beaches.

In Florida, we take our beaches as seriously as we do hurricanes. We have committed a quarter of a billion dollars to the state's Save Our Coast Program to purchase and preserve 17 miles of coastline. Additionally, over $30 million dollars has been spent by the state since 1965 on beach restoration projects. Federal assistance plays a critical role in the management of our coasts.

Our FY 87 request is for several beach restoration projects, preconstruction planning for Monroe and Sarasota County beaches, and for three studies including a statewide investigation of coastal processes. The North Boca Raton Beaches request has been included in our program on the condition that if funds are appropriated, permit concerns must be resolved.

Environmental Restoration and Enhancement

As I mentioned earlier, one of our major goals is to broaden the scope of Federal participation to include studies and projects that result in the restoration and enhancement of water resources. These projects are important to our state since our economy and the essence of Florida itself depends on maintaining high environmental quality.

Two of the studies included in our program -- Biscayne Bay and Six Mile Cypress -- are authorized and previously funded, yet no funds were included in the President's FY 86 budget. We urge you to accelerate these studies.

Funds are also requested for the restoration of Banana Lake in Polk County and for recreation improvements in Broward County and the City of Jacksonville. For these two latter projects, funds could come directly from the Corps of Engineers' Code 710 recreational development program, if funds were appropriated.

Conclusion

This concludes my remarks. Thank you for the opportunity to present the Florida Program of Public Works to you.

STATE OF FLORIDA
FISCAL YEAR 1987 PUBLIC WORKS PROGRAM

RIVER AND HARBOR—FLOOD DAMAGE PREVENTION—SHORE PROTECTION
ENVIRONMENTAL RESTORATION AND ENHANCEMENT

Broward County Comprehensive Water Management Plan
(Study)

Estimated Federal Cost	To Be Determined
Estimated Non-Federal Cost	To Be Determined
Federal Funds Through FY 86	0
Non-Federal Funds Through FY 86	0
President's Budget	0
State of Florida Request FY 87	$200,000

Project History/Description

Broward County is experiencing rapid growth, which is exacerbating flood control and water supply problems. As the local sponsor, Broward County is seeking assistance from the Army Corps of Engineers for its current planning efforts which include: 1) protecting the sole-source Biscayne Aquifer from surface pollution and salt-water intrusion, 2) developing methods for increasing water supply and decreasing demand through conservation, and 3) planning and designing structures for water control and supply. The study is not yet authorized.

As part of the Central and Southern Florida project authorized by Congress, the Corps of Engineers has studied this area at a regional level. Assistance is requested from the county to address specific county-wide concerns. Funding of $200,000 is requested which would be used to: 1) identify sources of treated wastewater effluents acceptable for use in creating a non-saline barrier, 2) selecting recharge/irrigation sites, 3) plan, design, and project the future costs of water supply/flood control structures, and 4) to analyze water quality.

Project Justification

The project would provide the following benefits to Broward County: 1) insure a continued supply of unpolluted, potable water to county residents and visitors, 2) provide flood protection, and 3) allow for the scheduled development of future water resources construction and water supply facilities.

Central and Southern Florida Flood Control Project
(Construction, Continuing Planning and Enginering)

Estimated Federal Cost	$767,000,000
Estimated Non-Federal Cost	431,465,000
Federal Funds Through FY 86	296,296,000
Non-Federal Funds Through FY 86	55,380,000
President's Budget	15,000,000
State of Florida Request FY 87	15,000,000
Benefit Cost Ratio: 5.1 to 1	

Project History/Description

The Central and Southern Florida Flood Control Project (C&SFFCP) is a massive system of water control works first authorized by Congress in 1948. The project area encompasses approximately 17,930 square miles over all or part of 16 counties and includes the Kissimmee River Basin, Lake Okeechobee and its regulatory outlets, a large portion of the Everglades, and the lower east coast of Florida.

The South Florida Water Management District has requested the following project components for FY 86: (1) C-111/South Dade Flood Control Projects. This planned modification of an existing canal is intended to restore natural water regimes to part of Everglades National Park without lowering existing levels of flood protection for other areas. (2) Protecting the Herbert Hoover Dike. Continuation of Herbert Hoover Dike Revetment Construction will protect the integrity of the existing dike from erosive wind and wave action at the upper regulation stage. (3) St. Lucie County Water Supply. FY 87 funds would allow design work for C-131 (St. Lucie County Irrigation Water Supply). (4) Reconstruction of Hurricane Gates 3, 4 and 5 and Pump Stations 6 and 9. These are purely replacement works and involve no change in project operation. (5) Western C-51 Project. This is a controversial proposal for FY 87 planning for a new flood control pump station at the north end of Conservation Area 1 and the enlargement of the western part of the C-51 canal.

Project Justification

In the first half of this century, heavy seasonal rains combined on several occasions with the passage of hurricanes to cause extensive long-lasting flooding. The C&SFFCP and its local sponsor, the SFWMD, are the result of Federal and State responses to the severe flooding of 1947. South Florida also experiences periodic severe droughts, and, as was mentioned above, the project was expanded in 1968 to include increased storage and conservation of water and improved distribution of water throughout the project area. This expansion has acquired greater importance as a result of floods in 1982 and extreme droughts in 1971 and 1981.

The population of South Florida continues to grow dramatically, and the potential benefits of both flood control and water conservation in the project area are increasing accordingly. The environmental quality of much of South Florida is affected by project management. The project is capable of providing essential water management for South Florida.

Four River Basins Project
(Construction)

Estimated Federal Cost	$187,000,000
Estimated Non-Federal Cost	131,820,000
Federal Funds Through FY 86	69,574,000
Non-Federal Funds Through FY 86	12,706,000
President's Budget	1,200,000
State of Florida Request FY 87	1,200,000
Benefit Cost Ratio: 1.8 to 1	

Project History/Description

The Four River Basins Project, sponsored by the Southwest Florida Water Management District, has been under construction since 1966 to provide flood protection for an area of approximately 6,000 square miles in 14 counties of central and southwest Florida. It includes part of the drainage basins of four major streams - the Hillsborough, Oklawaha, Withlacoochee, and Peace Rivers - and three smaller west coast watersheds - Pithlachascotee River, Anclote River and Lake Tarpon. The authorized plan includes numerous works in several parts of the project area. Some major components of the project have been completed, including the Tampa Bypass Canal, the Lake Tarpon Outfall Canal, the Masaryktown Canal and the Tsala Apopka Outfall Canal, along with related water control structures, railroad bridges, highway bridges and various relocations.

The FY 87 request is for continued construction of the Lower Hillsborough Wilderness Park at the Tis-a-wee and Trout Creek Sites.

Project Justification

This facility is located close to the Tampa Metropolitan area and is a regional recreation resource. The further recreational development of the Lower Hillsborough Wilderness Park will allow greater use of the major land resources acquired as part of the Four River Basins Project.

Northwest Florida Coastline: Groundwater Management Strategies
(Study)

Estimated Federal Cost	$3,200,000
Estimated Non-Federal Cost	0
Federal Funds Through FY 86	0
Non-Federal Funds Through FY 86	0
President's Budget	0
State of Florida Request FY 87	1,000,000

Project History/Description

The Northwest Florida Water Management District has requested funding to develop a management plan/strategy for groundwater quality and quanity in coastal areas of Northwest Florida. This study would include construction of test monitoring wells along the coast. These wells will provide information to: 1) locate and map the fresh/salt water interface in the Floridan aquifer, 2) determine, based on configuration of saltwater interfaces, availability for public supply and other uses, and 3) assist in refining existing groundwater quality and quantity management plans and regulations to more accurately reflect existing groundwater conditions and potential change. These wells will be incorporated into the existing monitoring programs of the Northwest Florida Water Management District.

Project Justification

Population in the coastal areas has increased very rapidly in the last ten years, and the number of tourists visiting areas from Panama City Beach to Pensacola has also rapidly increased. The resultant demand for water during the summer months now equals the full capacity of most public water supply systems. Thus, there is an acute need for a study to provide water managers with the information needed to meet these increasing demands for water. The Department of Community Affairs supports the study and find it consistent with the Governor's concern for the protection and provision of an adequate water supply to Northwest Florida.

Congressional study authorization is needed.

St. Johns River Basin Water Quality Management
(Study)

Estimated Federal Cost	$1,319,000
Estimated Non-Federal Cost	0
Federal Funds Through FY 86	100,000
Non-Federal Funds Through FY 86	0
President's Budget	0
State of Florida Request FY 87	450,000

Project History/Description

Continuation of this study is proposed by the St. Johns River Water Management District. The study was authorized by language in the FY 84 Public Works appropriations bill, directing the Army Corps of Engineers to prepare "an interim water quality management plan for the St. Johns River Basin, Florida...at full federal expense and in cooperation with local interests." An appropriation of $100,000 was made for this purpose in FY 84; there was not a subsequent FY 85 or FY 86 appropriation. An amount of $450,000 is requested for FY 87.

The study will provide a plan for the improvement of water quality in the St. Johns River. Available water quality data are currently being collected and reviewed. Land use mapping will be one component of this effort. The need for changes or enlargements in the current monitoring program is being assessed.

Eventually, the study will establish water quality goals for the basin, determine whether they are fulfilled in the various lake and stream segments, and recommend means of attaining these goals wherever possible. The Corps is working cooperatively with the St. Johns River Water Management District in this study.

Project Justification

The water quality of the St. Johns River has had many problems, as demonstrated by numerous fishkills, algae blooms, and citizen complaints. This study, along with information obtained from an ongoing multi-agency study of diseased fish in the lower reaches of the river, will develop an overall plan to address these problems. The result will provide important benefits to regional economics, aesthetics, and recreation. Fishery resources available for both commercial and sport uses should be enhanced from improved water quality management. Another benefit could be reduced expenditures for control of aquatic weeds.

St. Marys River Basin Floodplain
(Study)

Estimated Federal Cost	$1,075,000
Non-Federal Cost	475,000
Funds Through FY 86	700,000
Non-Federal Funds Through FY 86	0
President's Budget	250,000
Florida Request FY 87	375,000

Project History/Description

The St. Johns River Water Management District (SJRWMD) is proposing continuation of funding for a study of proper floodplain management in the St. Marys River Basin. The St. Marys River forms, for most of its length, the northeastern boundary of the State of Florida and drains about 1500 square miles. About 540 square miles of the basin are in Georgia.

The District hopes to obtain a wide variety of useful information from the study including compilation of existing data; accurate identification and field verification of all subbasins within the watershed and preparation of a mylar base map series; topographic mapping of the 100-year floodplain at a two-foot contour interval; delineation of 2-year and 100-year floodways and floodplains within main tributary streams; analysis of existing streamflow and rainfall monitoring networks; and creation of a basin-wide, watershed management model.

The Savannah District Corps of Engineers has completed a Reconnaissance Report for the St. Marys River Basin study based on work completed in FY 84. This report was received and reviewed by the SJRWMD in January 1985.

Although not a formal part of the proposal for a Corps' study, the SJRWMD hopes that the effort will improve interagency and interstate coordination for management of the St. Marys. Ultimately, formal or informal interstate agreements for management of the St. Marys may be devised.

Project Justification

This study would significantly improve water resource planning and management in the St. Marys River Basin. The basin would benefit from the first water resource baseline study ever undertaken in it and future problems may be prevented. The hydrology of the river system would be better understood and management of the basin would be improved. Flood damage costs could be reduced and human lives saved from disruption. Also, environmental changes such as structural modifications in the drainage system may be minimized by using the information gained in the study.

Suwannee River
(Study)

Estimated Federal Cost	$1,648,000
Estimated Non-Federal Cost	0
Federal Funds Through FY 86	880,000
Non-Federal Funds Through FY 86	0
President's Budget	0
State of Florida Request FY 87	768,000

Project History/Description

Completion of this study is requested by the Suwannee River Water Management District. The purpose of the study is to develop specific nonstructural programs for minimizing flood damages. The requested funds will be used to continue to develop and implement programs designed to ascertain recharge areas; protect surface and groundwater uses for water supply, irrigation, and pollution abatement; and to maximize environmental quality for fish and wildlife propagation. The study is also investigating, in much less detail, programs on scenic quality, recreation, and small boat navigation for the Suwannee and its tributaries.

Recent State actions include the redesignation of the Upper Suwannee as an Outstanding Florida Water and the work of the Suwannee River Resource Planning and Management Committee. This committee was appointed by Governor Graham and soon developed fifty-seven specific recommendations to address problems in the Suwannee Basin. The committee then developed a model floodplain ordinance that now has been adopted by all of the Florida counties along the river. Also, the state's "Save Our Rivers" Program is purchasing important acreage in the Suwannee watershed.

Project Justification

Three floods of 100-year magnitude have occurred on the Suwannee over the past 35 years. The 100-year flood level has been exceeded on about 50% of the river floodplain at least once since 1947. A 1973 flood caused $8 million in damage claims, while a flood in spring of 1984 caused $2.4 million in damages.

All parties now agree that identification, protection, and management of the river and its associated resources are essential. This study would contribute substantially to those goals. The study is providing information needed to adequately protect the river and its floodplain resources.

Tampa Bay Region Hurricane Refuge Alternatives
(Study)

Estimated Federal Cost	$284,000
Estimated Non-Federal Cost	0
Federal Funds Through FY 86	75,000
Non-Federal Funds Through FY 86	0
President's Budget	0
State of Florida Request FY 87	207,000

Project History/Description

The Tampa Bay region, on the central Gulf Coast of Florida, is highly urbanized with two large cities—St. Petersburg and Tampa—located on opposite sides of the bay. The close approach of Hurricane Elena during the Labor Day weekend of 1985 emphasizes the importance of investigating all means of reducing hazards to life and property. Under present conditions, hurricane warnings do not provide sufficient lead time to evacuate vulnerable residential areas. A possible means to alleviate this problem is to evacuate some residents into higher floors of certain buildings instead of attempting to completely evacuate all vulnerable residents. This could help prevent disastrous traffic jams on the major roads leading to safe inland areas.

Project Justification

Vertical evacuation might shorten the total time needed for evacuation. The National Hurricane Center currently strives to provide 12 hours of warning that a hurricane is expected to strike a particular area. However, the Tampa Bay area now requires 20 to 28 hours to successfully evacuate all residents to safe shelter. The additional time that might be gained from implementation of a vertical evacuation scheme might, therefore, be critical in a situation when a hurricane actually strikes. Having additional time also might prevent unnecessary evacuations. This concept, if proved successful, could be applied to other areas where sturdy high-rise structures are available.

Upper St. Johns Project
(Construction)

Estimated Federal Cost Estimated Non-Federal Cost Federal Funds Through FY 86 Non-Federal Funds Through FY 86 President's Budget State of Florida Request FY 87 Benefit Cost Ratio:	Cost figures for this project are included in those for the Central and Southern Florida Flood Control Project

Project History/Description

The project area of the Upper St. Johns River Basin in east-central Florida encompasses some 2,000 square miles and consists of some 60 individual contributing subbasins. In 1974, the original General Design Memorandum was deemed unacceptable to the State, primarily for environmental reasons, and was shelved.

The St. Johns River Water Management District (SJRWMD) entered into an agreement with the Corps in 1976 to replan the project. The first step in the new process was to appoint a Technical Advisory Committee composed of regulated interests, environmental interests, and a representative from local, State, and Federal government. The first meeting of this committee was in May, 1980. The Committee attempted to formulate a plan or alternative which would accommodate flood control, water supply, and restoration of low flows caused by interbasin transfers of water, historical loss of nearly 300,000 floodplain acres to agricultural uses, and overdrainage in the basin. Low river and marsh water levels during the dry season cause water quality problems and reduce wildlife and recreational values both in the upper basin and the middle to lower (northern) portion of the river.

After several field trips and meetings, which exposed the Committee to the upper basin's problems and range of solutions, the Committee formulated a conceptual plan which was presented to the SJRWMD Board of Governors in September, 1980, accepted by the Board, and then passed on to the Corps for a review to assess the project for re-inclusion in the State's Public Works Program. The Corps released the revised General Design Memorandum and EIS for review in mid-1985. State review was very favorable. Initial work on the Jane Creek Flood Detention Area is projected for mid-1986. Therefore, FY 87 funding is requested by the SJRWMD for implementation of the project.

Project Justification

This project could begin reversing decades of environmental damage in the Upper St. Johns River Basin. The multi-faceted nature of the project is especially promising. Potentially, the project could offer flood control, water supply, restoration of minimum flows, and marsh recreation with associated water quality benefits.

Withlacoochee River Regional Water Supply
(Phase II Study)

Estimated Federal Cost	$555,000
Estimated Non-Federal Cost	0
Federal Funds Through FY 86	350,000
Non-Federal Funds Through FY 86	0
President's Budget	0
State of Florida Request FY 87	200,000

Project History/Description

The Withlacoochee River Regional Water Supply Authority is proposing "Phase II" of the water supply study previously carried out by the Corps of Engineers. The Authority proposes that the initial survey of water supply problems and solutions be carried to a finer level of detail and design. They are not proposing that the Corps actually construct a complete water supply system.

Citrus and Hernando Counties, located within the study area, were the two fastest-growing counties in the State of Florida over the past decade. The Withlacoochee area was the only region of the State of Florida to exceed a 100% growth rate in the 1970's. This rapid growth, which is projected to continue, relates directly to the need to ensure a consistently high quality source of water in the Withlacoochee area.

Project Justification

This project is justified on the basis of bringing together the ongoing objectives of the Withlacoochee Regional Water Supply Authority and of the previously-completed Four River Basins Water Resources Management Study carried out by the Corps. Furthermore, although the previously funded three-year program successfully assembled a regional data base and made estimates of water needs and demands, an examination of the impacts and problems associated with the potential water supply alternatives for the area is still needed. This phase of the study will permit advanced planning, designing, and feasibility testing of water supply alternatives. Additionally, these plans will develop proposals for centralized water systems and determine the economic feasibility of each.

NAVIGATION

Clearwater Spoil Disposal
(Study)

Estimated Federal Cost	$237,000
Estimated Non-Federal Cost	177,000
Federal Funds Through FY 86	60,000
Non-Federal Funds Through FY 86	0
President's Budget	0
State of Florida Request FY 87	177,000

Project History/Description

Clearwater is in Pinellas County on the west-central coast of Florida. Continuation of this study would evaluate spoil disposal alternatives for necessary maintenance dredging of navigation channels in Clearwater Bay.

Specific construction projects anticipated in the future include the following:

(1) Maintenance of the authorized Intracoastal Waterway;
(2) Access to Dunedin Pass;
(3) Access to the new Sand Key Coast Guard Station;
(4) Maintenance of public marina facilities;

(5) Maintenance of private marina facilities;
(6) Restoration of residential finger canal water quality and navigation.

Project Justification

Population in this area is increasing rapidly. Growing commercial and recreational activities will increase the need for maintenance dredging. At the present time, there is little provision for spoil disposal, and there is no agreement over the quality of this material.

Fort Pierce Harbor
(Continued Planning and Engineering)

Estimated Federal Cost	$200,000
Estimated Non-Federal Cost	0
Federal Funds Through FY 86	110,000
Non-Federal Funds Through FY 86	0
President's Budget	90,000
State of Florida Request FY 87	90,000
Benefit Cost Ratio: 1.9 to 1	

Project History/Description

Fort Pierce Harbor is in St. Lucie County on the east central Florida Coast. The existing channel is 3.5 miles long and 25 feet deep; extending from the Atlantic Ocean through Fort Pierce Inlet across the Indian River and the Intracoastal Waterway, and terminating at Fort Pierce with a turning basin in front of the city docks. The main commodities shipped through Ft. Pierce are fresh citrus products and citrus pellets (exported), and aragonite (imported). In late 1982, the Corps released the Draft Feasibility Report and EIS for the Fort Pierce Study. In late 1984 the Governor advised the Corps of the state's concerns about the project. The local sponsor has contracted for development of a Port Master Plan, in part to address the Governor's concerns about the Port.

The Corps had originally recommended that the existing project be modified to provide a channel 36 feet deep and 500 feet wide extending from the open ocean to within the existing jetties, then becoming 32 feet deep and 300 feet wide from the point to the existing turning basin area. The project would also include expansion of the turning basin. In late August, 1985, the plan was modified substantially to a smaller project. The entrance channel would be 400' x 30', there would be no expansion of the turning basin, and the amount of excavation would be reduced to 956,000 cubic yards from the original 3,705,000 cubic yards. St. Lucie County has objected to this new proposal.

The feasibility report also addressed some environmental issues that had been identified by State and Federal agencies when the feasibility study began. Of special importance were the project impacts on a sabelleariid worm reef and seagrass beds. Concern over these impacts has caused some State agencies to oppose the project. FY 87 funding would complete preconstruction planning.

Project Justification

The proposed project would allow Fort Pierce Harbor to accommodate deeper draft ships which would result in transportation savings to shippers. This should result in an increase in shipping through the port which could in turn attract new business and increase employment in the area (unemployment in the Fort Pierce area considerably exceeds the state average). Funding for completion of preconstruction planning is recommended.

Jupiter Inlet
(Study)

Estimated Federal Cost	$184,000
Estimated Non-Federal Cost	0
Federal Funds Through FY 86	50,000
Non-Federal Funds Through FY 86	0
President's Budget	0
State of Florida Request FY 87	100,000

Project History/Description

Jupiter Inlet is located in Northern Palm Beach County on the southeast coast of Florida, about 16 miles south of St. Lucie Inlet and 14 miles north of Lake Worth Inlet. It is a natural waterway connecting the Loxahatchee River with the Atlantic Ocean. Problems of sedimentation and erosion along both banks of the inlet have become a matter of concern in recent years. Jupiter Inlet is also affected by navigational difficulties due to hazardous waves and inadequate depths across the ocean bar at its entrance. Its use is currently limited to boaters with knowledge of local conditions. In the past twenty years approximately ten people have been killed in boating accidents at the inlet.

Project Justification

Jupiter Inlet is important because of its aesthetic and recreational values, its value as a prime residential development and because it is the primary waterway connecting the Loxahatchee River to the Atlantic Ocean. The study would determine if major improvements to the Inlet are economically justifiable. The project would directly benefit the pleasure boaters and commercial fishermen in the area by decreasing the danger associated with the inlet. It would also bring an increase in business to the marine oriented business of the area, and increase tourism.

Lower St. Johns River Enhancement
(Study)

Estimated Federal Cost	$490,000
Estimated Non-Federal Cost	350,000
Federal Funds Through FY 86	0
Non-Federal Funds Through FY 86	0
President's Budget	0
State of Florida Request FY 87	200,000

Project History/Description

The City of Jacksonville has requested funding for this study to assess the Jacksonville Harbor Channel in the St. Johns River from the Atlantic Ocean to the vicinity of the Port of Jacksonville for possible improvements to navigation, shoreline erosion, and recreation. The study would address the following problems:

1. Navigational hazards and channel blockages;
2. Shoreline erosion and flood protection;
3. Production of potential disease-vectoring mosquitoes from water pools at dredged material disposal sites, as well as other impacts; and
4. Inadequate recreational access.

This is a general study designed to identify the problems caused by years of neglect and to determine methods to restore and enhance the shoreline and environment in general. The study will include specific recommendations for removing hazards, reducing the impact of spoil sites, and combating mosquito breeding. FY 87 funding would be used to initiate the study.

Project Justification

This study is expected to result in recommendations to decrease erosion by stabilizing the shoreline and dune areas, increase flood protection, improve navigation and navigational aids, reduce the impact of spoil sites, reduce non-point sources of contamination, restore destroyed salt water marsh areas, and improve recreational facilities. Proposed channel and navigational improvements will benefit port and maritime interests. Shoreline stabilization and flood protection will enhance development of waterfront lands and increase recreational benefits.

Mexico Beach Inlet
(Continued Planning and Engineering)

Estimated Federal Cost	To Be Determined
Estimated Non-Federal Cost	To Be Determined
Federal Funds Through FY 86	0
Non-Federal Funds Through FY 86	0
President's Budget	0
State of Florida Request FY 87	$200,000

Project History/Description

Mexico Beach is located on the coast of Bay County approximately 20 miles southeast of Panama City. The canal in question is not associated with a natural inlet and is approximately 50 feet wide, 4,000 feet long, and 8 feet deep. The canal provides access to the open waters of the Gulf of Mexico for boats launched at the three marinas located along the sheltered stretches of the canal. A boulder jetty extends 50 feet seaward from the western edge of the canal.

The Corps of Engineers' Draft Reconnaissance Report for the study was released in early 1983 and indicated that several project alternatives were economically feasible and environmentally acceptable. The Corps District Engineer concluded that the project is needed, it is of Federal interest, and that it would provide substantial economic benefits. All alternatives would provide a 6-foot-deep inner channel and an 8-foot deep outer channel. Thus, FY 87 funding would be needed to initiate continued planning and engineering.

Project Justification

The economy of the Mexico Beach area is tourist-dependent, and tourists come to Mexico Beach for basically two activities: fishing (mostly from boats) in the Gulf of Mexico, and beach-related recreation. Fishermen (and other boaters) using the three marinas located along the canal in question generate a significant portion of Mexico Beach's revenues. Local efforts to keep the canal inlet open have been only partially successful. Thus, the economic impacts of canal closing have been substantial, and maintenance of a navigable channel would be a significant boost to the local economy.

A channel mitigation project at Mexico Beach could have other important benefits. Redesign of the jetty at the mouth of the canal could reduce or eliminate the jetty's contributions to erosion of adjacent beaches. In addition, suitable spoil material from the canal could be used to renourish these beaches. Finally, safe refuge could be provided for boats during storm conditions. Currently, no safe harbor exists between Port St. Joe and Panama City, a distance of approximately thirty miles.

Miami Harbor Channel
(CP&E)

Estimated Federal Cost	$740,000*
Estimated Non-Federal Cost	0
Federal Funds Through FY 86	740,000*
Non-Federal Funds Through FY 86	0
President's Budget	0
State of Florida Request FY 87	250,000

Project History/Description

This would involve the construction of channel improvements after an evaluation of the navigation problems associated with the present configuration of Miami Harbor. The specific problems being addressed are the possible hazards presented by a 60° turn in the offshore access channel, the constriction of the main ship channel in Government Cut from 500 feet to 400 feet, and the existing 1600-foot diameter turning basin.

The bend in the access channel may present a safety and navigation problem which could be increasing as large ships use Miami Harbor more frequently. Due to the bend, the channel can only be used for one-way traffic, and several groundings of large vessels have occurred over the past few years. The constriction of the ship channel inside Government Cut causes a navigational hazard compounded by strong tides and currents. The main turning basin presents problems to ships over 1,000 feet long in positioning and in dealing with tides, currents and winds while turning. There is also a desire to modify the existing Government Cut jetty system to reduce rip tides in the main channel.

Project Justification

Project benefits could include a reduction in delays in navigating the access channel, a reduction of the need for tug services in the access channel and turning basin, and an increase in the safety of the harbor, particularly for larger ships. The project is strongly supported by the Biscayne Bay Pilots Association. Possible coral reef destruction, depending on the results of the planning process, could become a serious problem.

* Study

Miami River Cleanup
(Implementation)

Estimated Federal Cost	$183,000
Estimated Non-Federal Cost	0
Federal Funds Through FY 86	183,000
Non-Federal Funds Through FY 86	0
President's Budget	0
State of Florida Request FY 87	183,000

Project History/Description

This proposal by Dade County is for funding to undertake construction of the proposed project. The study area is the six miles of the Miami River in Dade County from its mouth to a point past 36th Street where it joins the Miami Canal, as well as the 14 miles of the canal within Dade County. The study, not yet completed at this time, is investigating the feasibility of dredging the Miami River to improve water quality and navigability.

The river is a Federal navigation project with authorized channel depths of fifteen feet. Development over many years has caused serious water quality problems in the river and it may be advisable to remove the contaminated sediments in the channel. Studies already completed by DER and the Corps confirm that the sediments are heavily polluted. However, in the 1970's, the

Corps suspended the completion of the study, pending action by the local sponsor to reduce the continuing pollutant loading to the river. Dade County has made progress in this area. Another related event is the Governor's appointment of a Miami River Management Committee to devise means of improving all assets of this urban waterway. Water quality and navigation improvements are included in the objectives of the committee. They have recommended removal of the sediments.

Project Justification

The Miami River is an underused urban resource. The Miami River Management Committee and Dade County are striving to improve its value for navigation, recreation, tourism and as an aesthetic amenity. The polluted sediments in the navigation channel are degrading water quality and preventing full use of a major urban river.

Mill Cove (Jacksonville Harbor)
(Construction)

Estimated Federal Cost	$4,000,000 +	($125,000 for CP&E)
Estimated Non-Federal Cost	0	
Federal Funds Through FY 86	0	($125,000 for CP&E)
Non-Federal Funds Through FY 86	0	
President's Budget	2,000,000	
State of Florida Request FY 87	2,000,000	
Benefit Cost Ratio: 1.8 to 1		

Project History/Description

The Jacksonville Port Authority has requested funding for the Mill Cove Project. Mill Cove is on the St. Johns River in the City of Jacksonville. It is located approximately 12 miles from the Atlantic Ocean and covers an area of 6 square miles with an average depth of 3.5 feet.

Much of Mill Cove was formerly part of the St. Johns River with its depth averaging 6 to 7 feet. During the early 1950's, the Dame Point-Fulton Cutoff was constructed in the interest of improving navigability in the St. Johns River as a part of the Jacksonville Harbor Project. This construction, combined with the completion of the 38-foot harbor deepening project in 1976, reduced the flow of water through Mill Cove and increased sedimentation. This has resulted in small boat navigation problems, recreational limitations, and alleged loss of waterfront land values. The Corps proposal would both modify the hydraulic flow through Mill Cove.

Project Justification

Sedimentation has reduced depths in most of Mill Cove; it eventually may become too shallow to support commercial and recreational activities. Increased circulation of water flow would restore and maintain depths and improve water quality and habitat areas within the cove.

Port Canaveral Project
(Construction)

Estimated Federal Cost	$26,300,000
Estimated Non-Federal Cost	4,354,000
Federal Funds Through FY 86	12,163,000
Non-Federal Funds Through FY 86	164,000
President's Budget	3,100,000
State of Florida Request FY 87	3,100,000

Benefit Cost Ratio: 2.6:1.0

Project History/Description

Port Canaveral is located on the east central coast of Florida, approximately 150 miles south of Jacksonville. The Canaveral Port Authority is requesting funding to complete the dredging of a channel and turning basin to 31 feet.

Approximately $8.0 million would be needed in FY 86 to complete construction. The port authority will pay approximately $6 million of the total project cost ($14.8 million). A draft EIS and final supplemental EIS have been prepared. Permits have been acquired for a dredged depth of 31 feet.

Project Justification

Port Canaveral has become an important energy port providing facilities for low cost ocean transportation of bunker fuel for the area's electric power plants and for the import and export of bulk commodities such as cement, newsprint, slag, citrus concentrate, frozen fish, and scrap metal. The port's business is growing along with the unprecedented growth of the Central Florida region. As of now, all piers at the port are fully used or committed to projects under development, and there is no room for expansion for deep draft ship operations. The requested construction is needed as soon as possible to allow for this needed expansion.

Completion of the western turning basin is particularly important. Unstable sediment conditions are making harbor depth maintenance more difficult and costly. Project completion would significantly reduce maintenance dredging, since bulkheading (which would be completely funded by the port authority) could be completed and depth would be generally equalized. This would reduce the environmental impacts on the harbor area and the need for large spoil areas.

The environmental mitigation plan proposed by the Corps in the original draft EIS was much-improved in the April, 1985 supplement to the draft. Two plans are favored by the U.S. Fish and Wildlife Service, the Corps, and most other interests. Both would substantially improve wetland conditions in the adjacent Sykes Creek area, now managed primarily for mosquito control. Plan "A" is superior environmentally to Plan "B", but would require acquisition (by the Corps or some other party) of several hundred acres.

Port Canaveral
(Reconnaissance Study)

Estimated Federal Cost	$50,000
Estimated Non-Federal Cost	0
Federal Funds Through FY 86	0
Non-Federal Funds Through FY 86	0
President's Budget	0
State of Florida Request FY 87	50,000

Project History/Description

The Canaveral Port Authority is requesting a feasibility study of dredging the Canaveral Harbor Channel and other areas of Port Canaveral to sufficient depths to allow for economical importation of coal and other commodities. The study would also evaluate a possible expansion of Federal maintenance dredging at the port.

Port Canaveral is located on the east central coast of Florida approximately 150 miles south of Jacksonville. This proposed study springs from a lease agreement executed in 1980 between a shipping company and the port authority. The shipping company is planning to locate a coal offloading, storage, and transportation facility at Port Canaveral. The deep draft nature of the coal carrying vessels would require a channel depth of at least 41 feet.

Project Justification

A coal offloading, storage, and transporting facility at Port Canaveral could be used to provide coal economically for power plants in central and eastern Florida. The coal would replace petroleum, and this substitution is consistent with Federal policy aimed toward restricting petroleum imports. The most economical coal carrying vessels require a channel depth of 41-45 feet, and Port Canaveral currently is not deep enough to accommodate such vessels fully loaded.

Maintenance dredging of the various channels and turning basins at Port Canaveral is currently done by the port authority, the Corps of Engineers, and the Navy. This multiple maintenance situation is confusing, cumbersome, and inefficient. Many contracting conflicts have made dredging more expensive and time consuming than it would have been if done under a single contract. Federal assumption of this maintenance dredging would alleviate these problems.

Port Everglades
(Study)

Estimated Federal Cost	$140,000
Estimated Non-Federal Cost	95,000
Federal Funds Through FY 86	43,000
Non-Federal Funds Through FY 86	0
President's Budget	50,000
State of Florida Request FY 87	50,000

Project History/Description

This is a proposed study of the desirability of modifying the existing federal navigation project at Port Everglades.

Port Everglades is managed by the Port Everglades Authority, a special district in Ft. Lauderdale and Hollywood, Florida. The Port serves several import and export markets. The Port is the fourth-largest cruise ship port in the world, includes an active Foreign Trade Zone, a major containerization trade, significant general cargo business, and serves as a very large petroleum importer.

The Port Everglades Master Plan projects expansion of cargo and especially of container business. Growth in container tonnage will require improvement of landside and channel facilities. This study would generate alternative modifications to the existing federal navigation project and identify engineering, economic, and environmental details.

The study has been authorized by Congress. The FY 87 proposal is for a $95,000 appropriation for completion of an Army Corps of Engineers Reconnaissance Study previously requested for FY86. If the results of that preliminary study are favorable, the study can be carried on to a complete Feasibility Report.

Project Justification

The enhancement of Port Everglades would benefit its market hinterland, which is most of South Florida. The 1983 Master Plan estimates the regional economic impact of Port Everglades activities to total $412 million. It also projects that Year 2000 economic impacts will be between $1.45 and $2.25 billion, depending partly on whether a substantial part of the port's petroleum business is diverted by a new petroleum products pipeline. In either case, improvements of Port Everglades can substantially contribute to the well-being of the regional economy.

Port Manatee Project
(Construction)

Estimated Federal Cost	$12,710,000
Estimated Non-Federal Cost	3,727,000
Federal Funds Through FY 86	0
Non-Federal Funds Through FY 86	0
President's Budget	0
State of Florida Request FY 87	12,710,000
Benefit Cost Ratio: 6.9 to 1	

Project History/Description

The Port Manatee Project is a proposal for Federal assumption of maintenance dredging of the existing navigation channel constructed by the Manatee County Port Authority in 1969-71. The proposed plan involves both removal of materials deposited in the channel since its construction and new construction at both ends of the channel to improve the safety of navigation. The channel dimensions would be 400 feet wide by 40 feet deep at mean low water (the same as originally constructed by the Port Authority) plus two feet allowable overdredging. Total channel length would be 2.65 miles, extending from the port facilities to the main Tampa Harbor Channel.

The project includes an attempt to mitigate for the environmental damage done by the dredging. Ten acres of an existing above-water spoil island would be lowered to -2 feet mean low water to compensate for the destruction of 6.6 acres of vegetated shallow bay bottom caused by the enlargement of the turning basin. Vegetation planting is not planned, but the Corps of Engineers believes that the lowered area will revegetate itself naturally.

Project authorization is necessary.

Project Justification

The Port of Manatee now serves the local area both for oil imports and for phosphate exports. The Feasibility Report and the Environmental Impact Statement (EIS) for the proposed project were published in 1979 and assumption of the project was recommended. The selected "Environmental Quality" plan of spoil disposal includes 100% upland disposal.

The Port Manatee project would destroy additional seagrasses in the bay. Although the plan does call for natural revegation of an equal area of seagrasses, the current mitigation plan does not seem adequate. Special care must be taken to assure successful revegetation and adequate mitigation.

Port of St. Petersburg Basin/Channel Dredging Project
(Economic Restudy)

Estimated Federal Cost	$75,000
Estimated Non-Federal Cost	50,000
Federal Funds Through FY 86	25,000
Non-Federal Funds Through FY 86	0
President's Budget	(50,000)*
State of Florida Request FY 87	75,000

* Available from FY 86 funds if Reconnaissance Study approved and cost sharing provided.

Project History/Description

The City of St. Petersburg is submitting an initial request for FY 87 funds to dredge the Port channel and basin. Although the current depth of 22 feet is sufficient for most of the ship traffic through the harbor, the Port seeks to promote the development of substantial cruise ship activity in St. Petersburg. This activity has a controlling depth need of 24-27 feet.

The Corps conducted a benefit/cost analysis of a 24-foot depth in 1981, and found that such a project, without cruise ship activity, could not be economically justified. If the Port is included in the budget, a new benefit/cost analysis will be conducted to determine the economic impacts of cruise ship traffic. The Port currently has some form of commitments from a small number of cruise ships.

Project Justification

A Comprehensive Plan developed by the city in 1979, as well as a Port Master Plan written by private consultants in 1982, indicate that growing levels of tourism and resident population will generate increasing levels of cruise ship activity. While the two plans note that the Port is relatively unattractive due to geographic location, competition from more desirable ports, lack of facilities/space, and deed restrictions, there are advantages. These include a spill-over of cruise activity to the Port as other harbors become overly-congested, access to an attractive international airport, and proximity to an expanding tourist market in the Gulf of Mexico. Both plans look to an expansion of cargo handling as a secondary Port activity.

The city contends that existing tidal and wind conditions, as well as cruise ship operating experience, indicate that design considerations and known safety margins are inadequate. Dredging would provide navigational safety improvement and ability to provide for cruise ship operations. Cruise ships can provide economic benefits to the city, region, and state.

Tampa Harbor Deepening Project
(Construction)

Estimated Federal Cost	$42,800,000
Estimated Non-Federal Cost	14,698,000
Federal Funds Through FY 86	525,000
Non-Federal Funds Through FY 86	0
President's Budget	7,400,000
State of Florida Request FY 87	7,400,000
Benefit Cost Ratio: 2.3 to 1	

Project History/Description

This would begin construction of the deepening of "Cut D" and Sparkman Channel from 34 feet to 40 feet. The deepening of the main shipping channel should be completed with FY 86 funds.

In 1978, concerns arose as to whether the dredging associated with the Tampa Harbor Deepening Project might have an adverse effect on the Floridan Aquifer. It was thought that deepening the existing channel might breach the top of the Floridan Aquifer, thereby increasing outward flow or allowing salt water intrusion, depending on the potentiometric head. In 1979, a study was initiated by the Tampa Office of the USGS to address this issue. The study report indicated that the Tampa Harbor Channel dredging will have no significant effect on the Floridan, but dredging further to the north may have more adverse impacts. This possibility is to be addressed before construction is allowed to begin.

Project Justification

Benefits accrue from the lower costs of transporting goods in more economical, deeper draft vessels. For Tampa Harbor, approximately 80 percent of this benefit will be attributed to cheaper shipments of phosphate ore products. Tampa Harbor is the nation's eighth largest port in terms of tonnage.

BEACH EROSION CONTROL

Brevard County Beaches
(Study)

Estimated Federal Cost	$264,000
Estimated Non-Federal Cost	154,000
Federal Funds Through FY 86	110,000
Non-Federal Funds Through FY 86	0
President's Budget	0
State of Florida Request FY 87	154,000

Project History/Description

This study is essentially an update of a 1967 beach erosion study. Brevard County is located on the east central Florida coast and includes Cape Canaveral and the John F. Kennedy Space Center. The 1967 study recommended restoration of the Cape Canaveral and the Indialantic-Melbourne Beach areas. These two projects were completed in 1975 and 1980, respectively, and periodic renourishment was recommended for both projects. Continued erosion of these restored areas and of the County's unrestored beaches has brought about a need for restudy of current annual erosion rates, projected impact of continued erosion, and estimated schedule for renourishment. The study would also provide specific recommendations for erosion control. The Corps of Engineers has agreed that a restudy of beach erosion problems in Brevard county is needed.

Since this study would update a previously authorized study, no new Congressional authorization is needed.

Project Justification

This study would determine the amount of material required to replenish sand lost to erosion by wave action, the renourishment schedule, and methods to reduce erosion. The replenished sand would provide a barrier that would protect upland structures from erosion and reduce or eliminate maintenance costs for structures now in place that were designed to reduce storm damage to the beach. The addition to the beach would provide enhanced and additional recreational areas for residents, and for tourists who comprise a major source of income for the area.

Broward County Beaches
(John U. Lloyd State Beach Recreation Area)
(Construction)

Estimated Federal Cost	$18,500,000
Estimated Non-Federal Cost	22,400,000
Federal Funds Through FY 86	11,033,000
Non-Federal Funds Through FY 86	16,293,000
President's Budget	4,000,000
State of Florida Request FY 87	4,000,000
Benefit Cost Ratio: 27 to 1	

Project History/Description

The project is to renourish approximately 1.5 miles of beach extending to the south of Port Everglades' south jetty on Florida's southeast Atlantic Coast. The request is for reimbursement to Broward County of $3,735,000 for renourishment with 889,088 cubic yards of fill. Placement of the fill is scheduled for the summer of 1986. The project was authorized by Congress in 1965 with initial renourishment accomplished in 1976. The project area is a portion of the John U. Lloyd State Park Recreation Area which the Department of Natural Resources' Division of Beaches and Shores states is badly eroded and in need of renourishment.

Erosion and shoreline recession of the beach during the nine years since renourishment has threatened the integrity of the seawall at the U.S. Navy's Surface Weapons center next to Port Everglades' south jetty and resulted in the loss of recreational beach space at the State Recreation Area. This project would return the beach to the original design specifications.

Project Justification

John U. Lloyd State Beach Recreation Area is a facility catering to residents and tourists interested in enjoying beach-related activities. Offered are nature walks, fishing, canoeing, swimming, skin and scuba diving, and sunbathing. An adequate beach area is required to fully provide these activities. The design beach would also provide protection for upland structures now threatened by wave action.

Cape Canaveral Beach Renourishment
(Construction)

Estimated Federal Cost	$3,000,000
Estimated Non-Federal Cost	To Be Determined
Federal Funds Through FY 86	0
Non-Federal Funds Through FY 86	0
President's Budget	0
State of Florida Request FY 87	1,000,000

Project History/Description

This is an ongoing periodic renourishment project of one of the Brevard County beaches. This two-mile section of beach was last restored in 1974-75 with 2,000,000 cubic yards of dredged fill material and has a life expectancy of 10 years. It has since become critically eroded with approximately 60 percent of the restored beach lost to erosion. Renourishment is scheduled for the 1986-87 time frame. Suitable material is available from a stockpile on the Cape Canaveral Air Force Station or possibly from the construction of the proposed west turning basin at Port Canaveral, if that project is initiated in time.

Project Justification

Renourishment of the 2.0 miles of restored beach will afford maximum protection against erosion and storms to two public oceanfront parks and numerous public beach access routes. It will provide a greater expanse of heavily used beach for recreational purposes. In addition, it will afford protection to private single and multifamily structures which provide a tax base for the County and City of Cape Canaveral. It is also expected to enhance the tourist trade in this area. There is a possible conflict with sea turtle nesting.

Captiva Island Beach Nourishment
(Advanced Engineering and Design)

Estimated Federal Cost	$65,000
Estimated Non-Federal Cost	0
Federal Funds Through FY 86	40,000
Non-Federal Funds Through FY 86	0
President's Budget	0
State of Florida Request FY 87	20,000
Benefit Cost Ratio: Not determined	

Project History/Description

Captiva Island is on Florida's southwest coast near Fort Myers. This is a request from the Captiva Erosion Prevention District for reimbursement of beach restoration costs for 3.0 miles of beach on Captiva Island. The restored beach would be approximately 100 feet wide and would be constructed in two phases by local interests in accordance with the overall federal Beach Erosion Control Study for Lee County completed by the Corps of Engineers in 1969.

Project Justification

In 1969, at the request of the Lee County Commission, the Corps prepared a study on beach erosion in Lee County. The study reported that the beaches were severely eroded and recommended a Federal project of beach nourishment for erosion control. Historical records show over 700 feet of shoreline recession since 1906, with a maximum annual loss of more than 39 feet. Erosion rates measured from 1967 to 1979 are three to four cubic yards per linear foot of beach per year. This project, by renourishing the beach area, would provide protection to upland property, provide hurricane and storm protection for portions of a road which is the only land access and emergency evacuation route, and provide additional public recreation area.

Dade County Beach Erosion Control and Hurricane Protection Project
(Construction)

Estimated Federal Cost	$48,600,000
Estimated Non-Federal Cost	40,800,000
Federal Funds Through FY 86	34,144,000
Non-Federal Funds Through FY 86	26,396,000
Estimated Federal Funding Requirements FY 87	2,000,000
President's Budget	2,000,000
State of Florida Request FY 87	2,000,000
Benefit Cost Ratio: 3.8:1.0	

Project History/Description

This project is intended to provide renourishment, as needed, for Dade County's recently completed Beach Erosion Control and Hurricane Protection Project. The overall project involved the dredging and placing of 14 million cubic yards of material to form a protective and recreational beach and protective dune for 9.3 miles of shoreline between Government Cut on the south and Bakers Haulover on the north. This shoreline is adjacent to Miami Beach, Surfside, and Bal Harbour Village. Beach construction was first completed in 1982, but average annual renourishment need is projected to be 210,000 cubic yards. The renourishment material is being obtained from off-shore areas by dredging.

Project Justification

Beach erosion in the project area results from a combination of factors including prevailing winds, swells, beach development, protective structures, and the presence of artificial inlets. Recreational beach has been lost, beach-front property is threatened with erosion, and seawalls have come under direct attack of waves. Many of the problems now associated with the subject shoreline are the direct result of shoreline alterations made without knowledge of the sediment transport mechanisms in the area or without regard for the protective value and sediment supply of the beach/dune system. Though expensive and energy-intensive, beach renourishment in the project area seems essential to provide storm protection and recreational benefits for an area of immense economic importance.

As with most beach restoration projects in Southeast Florida, potential beach damage to nearshore reefs has been the major controversy associated with this project. Dade County has requested the Corps to emphasize innovative means of solving this problem.

Dade County Beaches - North of Haulover Beach Park
(Construction)

Estimated Federal Cost	$13,000,000
Estimated Non-Federal Cost	12,100,000
Federal Funds Through FY 86	794,000
Non-Federal Funds Through FY 86	700,000
President's Budget	6,000,000
State of Florida Request FY 87	6,000,000
Benefit Cost Ratio: 2.5 to 1	

Project History/Description

This is a project proposed by Dade County to provide control of beach erosion and hurricane-induced flooding for the coastal area extending 2.5 miles north of Haulover Beach Park. Construction of this project was authorized by the Supplemental Act of 1985.

Project Justification

Beach erosion in the project area results from a combination of factors including prevailing winds, swells, storms, beach development, protective structures, and the presence of artificial inlets. Recreational beach has been lost. Beach front property is threatened with erosion, and seawalls have come under direct wave action. Many of the problems now associated with the subject shoreline are the result of shoreline alterations made without knowledge of the sediment transport mechanism in the area or without regard for the protective value and sediment supply of the beach-dune system. A general deficiency in supply of littoral material reaching the area plus the action of littoral barriers have resulted in severe erosion over parts of the project area.

As with most beach renourishment projects in Southeast Florida, potential damage to nearshore reefs has been the major controversy associated with this project. Dade County has recently requested the Corps to place increased emphasis on developing an innovative design to minimize reef damage.

Duval County Beach Renourishment
(Construction)

Estimated Federal Cost	$16,000,000
Estimated Non-Federal Cost	13,978,000
Federal Funds Through FY 86	9,263,000
Non-Federal Funds Through FY 86	6,712,000
President's Budget	3,200,000
State of Florida Request FY 87	3,200,000
Benefit Cost Ratio: 2.7 to 1	

Project History/Description

This renourishment project is to replace sand which has been lost as a result of the combined effects of tides, storms and wind since the original beach renourishment project of 1978-1980. Since completion of the beach nourishment project, there has been a significant loss of beach and the FY 87 request is for renourishment which was planned for and anticipated in the original study.

The Corps anticipates a three-part effort for this renourishment. Sand for the northern half of the project derived from maintenance dredging of Jacksonville Harbor has been placed. The renourishment was originally planned for the summers of 1984, 85 and 86. However, since the DNR did not have adequate matching funds, Phase II and III have been delayed. The original contract has expired; a new one is being negotiated.

Project Justification

Since 1980, considerable beach area has been lost to erosion by winds, tides and "northeasters". Measures to reduce or prevent loss of windblown sand will be studied and applied where possible. This maintenance renourishment is necessary to avert complete loss of beach areas which were created by the original construction program and will reestablish a valuable recreational beach and provide protection for roads and real estate against storm damage.

Flagler County Beach Erosion Control
(Study)

Estimated Federal Cost	$135,000
Estimated Non-Federal Cost	0
Federal Funds Through FY 86	20,000
Non-Federal Funds Through FY 86	0
President's Budget	0
State of Florida Request FY 87	115,000

Project History/Description

Flagler County is in northeastern Florida about 50 miles south of Jacksonville. This study was initiated in 1977 to assess the condition and erosion problems of the beaches of Flagler County and to develop appropriate recommendations and corrective measures where necessary.

Much of the shoreline of Flagler County is undeveloped. Flagler Beach and Marineland are the primary developments along the beach. About one-third of the County oceanfront along Highway A1A is open to the public. The highway itself is susceptible to erosion and is within 100 feet of the mean high water line along most of the southern county oceanfront. Although much of the shoreline area presently is not developed, a massive residential community (ITT Palm Coast) is being constructed in the northern part of the county.

A reconnaissance report completed in 1980 concluded that a beach nourishment project was not economically justifiable for this beach area due to the small population. However, the local sponsor has requested that the feasibility study be completed so that nonstructural alternatives can be identified. Thus, FY 87 funding will be needed to complete it.

Project Justification

The primary benefit of this study is that it would increase the amount of technical data on the erosion and storm damage processes along the Flagler County coastline. This information and the alternatives designed by the Corps could then be used by local governments to guide development of the coastal area and adjacent uplands. The use of planning to prevent shoreline erosion problems seems much more reasonable than using structural techniques to correct the damage that would be allowed by lack of planning.

Florida Statewide Beaches Study
(Coast of Florida Erosion and Storm Effects Study)

Estimated Federal Cost	$5,520,000
Estimated Non-Federal Cost	8,400,000
Federal Funds Through FY 86	770,000
Non-Federal Funds Through FY 86	0
President's Budget	750,000
State of Florida Request FY 87	1,525,000

Project History/Description

This proposal by the Florida Department of Natural Resources is for continuation of a statewide study of the status and dynamics of the coastal processes affecting Florida's beaches. The study will provide a much improved technical basis for assessing future coastal changes (whether man-induced or natural) by systematically collecting essential data and identifying the factors that cause coastal changes. The study objectives are to document, quantify, and understand coastal changes and processes along physiographic regions encompassing Florida's shoreline with a view of developing and evaluating alternatives for protecting upland property from damage by erosion, storm surge and waves and for reducing the cost of nourishment of existing Federal beach erosion control projects and maintenance of navigation projects.

Project Justification

The coast of Florida, which includes 800 miles of high-quality sand beaches, is an extremely valuable state natural resource. This study will provide vital information for coastal resource management. Benefits will include: 1) a better scientific basis for decisions on coastal development, 2) improved effectiveness and reduced costs of future and existing coastal works, 3) an improved basis for preventing storm damages, 4) an improved basis for regulatory decisions, such as the coastal construction control line, and 5) a better understanding of the long-term effects of rising sea level.

The recent damage done to much of Florida's central and northern Gulf Coast by Hurricane Elena demonstrates the need for this study.

Fort Pierce Beach
(Construction)

Estimated Federal Cost	$3,460,000
Estimated Non-Federal Cost	3,230,000
Federal Funds Through FY 86	0
Non-Federal Funds Through FY 86	0
President's Budget	0
State of Florida Request FY 87	650,000

Benefit Cost Ratio: 2.5:1.0

Project History/Description

This proposal by St. Lucie County is for the placement of 350,000-450,000 cubic yards of sand on the beach beginning at the south jetty of Ft. Pierce Inlet and extending 1.3 miles to the south. The material would be taken from a borrow area 3,000 feet offshore. The beach to be nourished includes two public parks: South Shore Park (1,210 feet of beach frontage) and Surfside Park (550 feet of beach frontage). Both are fully open to public use.

The effect of sand movement in the longshore direction is most evident at Ft. Pierce Inlet, where the beach just south of the inlet has receded an average of 4.3 feet a year since 1930, while during the same period the beach on the north side has advanced seaward. Previous beach nourishment projects have preserved the beach on the south side from eroding so far inward as to destroy both private and public property. However, most benefits (88%) are attributable to recreation on the beach, rather than property protection. Costs are to be divided almost equally between federal and non-federal interests.

A possible adverse environmental impact of this project is interference with sea turtle nesting. The beaches are used for this purpose from mid-May through late August, with incubation extending into November. The current plan is to conduct beach nourishment, as far as possible, during periods when nesting is not occurring. If necessary, a program to collect and incubate the eggs may be implemented.

Project Justification

Restoring the beach will preserve the existing recreational resource and protect capital investments. The two public beach parks in this area would continue to serve residents and visitors.

Indian River County Beach Nourishment: Sebastian Inlet Component
(Construction)

Estimated Federal Cost	$804,000
Estimated Non-Federal Cost	759,000
Federal Funds Through FY 86	0
Non-Federal Funds Through FY 86	0
President's Budget	0
State of Florida Request FY 87	804,000
Benefit Cost Ratio: 1.4 to 1	

Project History/Description

This is the Sebastian Inlet State Park component of the Indian River County beach nourishment project. Sebastian Inlet Tax District is acting as local sponsor for this component; nonfederal costs are expected to be provided by the Florida Department of Natural Resources. The project still needs congressional authorization.

The Sebastian Inlet plan recommended by the Corps involves placing fill along almost the entire shore of the Park, amounting to 1.68 miles. A total of about 202,000 cubic yards of fill would be used for the initial phase of the project. It is estimated that an equal amount of fill would be required every 5 years thereafter. A special environmental hazard of this project is possible effects on the nesting of sea turtles. This region of the coast is an important nesting area for sea turtles (primarily Atlantic loggerheads). Turtle nesting begins during the first week in May and continues through September. The potential harm to sea turtles resulted in a U.S. Fish and Wildlife Service recommendation that the beach nourishment project be conducted only from November to May.

The principal borrow area is located about 3,000 feet offshore, and about 4 miles south of the Park. In addition, it may be possible to use some of the materials from the periodic dredging of Sebastian Inlet.

Project Justification

Benefits to be derived from beach nourishment in this area are increased recreational space provided by the added material and prevention of storm damage to public property. The Sebastian Inlet State Park segment is completely open to public use. Additionally, the project will reduce the need for storm protection structures, such as seawalls, revetments, groins, bulkheads, etc., which in themselves lead to further beach erosion.

Indian River County Beach Nourishment: Vero Beach Component
(Construction)

Estimated Federal Cost	$1,756,000
Estimated Non-Federal Cost	1,943,000
Federal Funds Through FY 86	0
Non-Federal Funds Through FY 86	0
President's Budget	0
State of Florida Request FY 87	1,756,000
Benefit Cost Ratio: 2.1 to 1	

Project History/Description

This is the Vero Beach component of the Indian River County beach nourishment project. Both components need congressional authorization. The Vero Beach recommended plan involves 1.74 miles of beach. This phase of the project does not seem to have quite as much potential impact on turtle nesting as the Sebastian Inlet Park component.

There are two principal reasons why the shoreline of Indian River County is eroding. The first is the general rise in sea level being observed worldwide. The second is that the construction of Sebastian Inlet Jetty at the northern end of Sebastian Inlet State Park has blocked the natural southerly movement of offshore sand.

If construction is authorized by Congress, construction could begin soon. At present, the favorable recommendation of the Army Corps of Engineers has not been released by the Assistant Secretary of the Army. The need for the project was emphasized in late 1984, when a heavy storm caused severe erosion along much of Florida's south Atlantic Coast.

Project Justification

Benefits to be derived from beach nourishment in this area are increased recreational space provided by the added material, prevention of storm damage to private and public property, and the reduction of the need for storm protection structures such as seawalls, revetments, groins, bulkheads, etc., which in themselves lead to further beach erosion.

Monroe County Beach Erosion Control
(Continued Planning and Engineering)

Estimated Federal Cost	$218,000
Estimated Non-Federal Cost	0
Federal Funds Through FY 86	125,000
Non-Federal Funds Through FY 86	0
President's Budget	0
State of Florida Request FY 87	93,000
Benefit Cost Ratio: 7.5 to 1	

Project History/Description

This project has been requested by the City of Key West to restore Smathers Beach and to fill the adjacent east and west shorelines with sand, to perform periodic nourishment of the beach for 50 years, to construct two groins, and to relocate a boat ramp. The plan also includes filling nearshore depressions and seagrass planting. The overall project could eventually extend for 9,400 feet of beachfront.

Project Justification

The Final Feasibility Report projected an annual gain in recreational resources of $1,007,200 and an annual damage cost savings of $61,200. Against an annual cost of $597,900, this results in a benefit-cost ratio of 1.8:1.0. The project is expected to improve the local tourist economy and provide local employment benefits. The number of users of the beach is projected to increase to 450,000 per year by 1989.

Funding is recommended for planning and engineering for the entire 9400-foot stretch of the project. However, actual construction should be done in phases as supplemental studies demonstrate the need for additional recreational beach areas. Environmental standards will have to be met in the permitting process.

North Boca Raton Beach Restoration
(Construction)

Estimated Federal Cost	$10,900,000
Estimated Non-Federal Cost	18,400,000
Federal Funds Through FY 86	4,221,000
Non-Federal Funds Through FY 86	8,985,000
President's Budget	1,700,000
State of Florida Request FY 87	1,700,000
Benefit Cost Ratio: 2.7 to 1	

Project History/Description

This project is co-sponsored by Palm Beach County and the City of Boca Raton. Boca Raton is located in southern Palm Beach County between Palm Beach and Miami. The northern two miles of the Boca Raton City Beach have lost approximately 1,324,000 cubic yards of sand. This loss has reduced the natural storm protection provided by the beach, thus subjecting inland structures to possible damage by storm surge. Available beach recreational area has also been reduced.

This proposal is to nourish 1.7 miles of beach with approximately 900,000 cubic yards of sand to restore storm protection and recreational area. This project is consistent with the overall Palm Beach County beach restoration program. This application is for reimbursement of $2,365,785. The project sponsors must obtain Corps approval of the project's plans and specifications before reimbursement can be authorized.

Project Justification

The project would provide storm protection for upland properties including State Road A1A and city park structures. The majority of the beachfront property is city owned. Therefore, the additional beach area would provide recreational space for residents and tourists.

Beach restoration projects in Palm Beach County have sometimes caused problems because of the presence of nearshore coral reefs that could be damaged by dredging and the resultant turbidity. This project has been particularly controversial. Only if all permitting issues are resolved should any appropriated funds actually be spent.

Pinellas County
(Construction)

Estimated Federal Cost	$19,100,000
Estimated Non-Federal Cost	20,762,000
Federal Funds Through FY 86	4,163,000
Non-Federal Funds Through FY 86	3,699,000
President's Budget	1,600,000
State of Florida Request FY 87	12,194,400
Benefit Cost Ratio: 3.3 to 1	

Project History/Description

Congress authorized a review of the beach erosion control report on Pinellas County, Florida in 1976. The resolution authorized a periodic nourishment project for five barrier islands: Mullet Key, Long Key, Treasure Island, Sand Key and Clearwater Beach Island. To date, funding has been used for breakwater construction and nourishment projects at Redington Shores and Long Key and reconstruction of a groin at Madeira Beach.

The Restoration sponsored by Pinellas County is for the placement of roughly 1.5 million cubic yards of sand on the beaches of Redington Beach, North Redington Shores and Indian Shores. Nourishment will consist of almost seven miles of shoreline. Although submitted as a separate proposal the Pinellas County Beaches project also includes nourishment of 2.8 miles along Indian Rocks Beach and the creation of an offshore breakwater.

Project Justification

Severe to moderate erosion has occurred in the towns of North Redington Beach, Redington Shores, Indian Shores, and Indian Rocks Beach. The beach nourishment will provide storm protection for public and private properties as well as Gulf Boulevard, a major roadway. The creation of a recreational beach will benefit residents and visitors to the Gulf Beaches of Pinellas County.

Sarasota County Beaches
(Venice/Caspersen Beach)
(Continued Planning and Engineering)

Estimated Federal Cost	$479,000
Estimated Non-Federal Cost	486,000
Federal Funds Through FY 86	0
Non-Federal Funds Through FY 86	0
President's Budget	0
State of Florida Request FY 87	479,000
Benefit Cost Ratio: 2.1 to 1.0	

Project History/Description

Venice/Caspersen Beach is in Sarasota County on the west-central coast of Florida, about 50 miles southwest of Tampa. The county coastline consists of five barrier islands separated by tidal inlets.

In 1964, Congress authorized a study of beach erosion problems in Sarasota County. At the county's request, the study was deferred in 1970 but resumed in 1978. In April of 1984, the Corps of Engineers released the project's Feasibility Report and Environmental Impact Statement. The report indicates a favorable benefit/cost ratio, especially for Venice/Caspersen Beach. Erosion problems are particularly severe in that area. The most likely source of sand for the project is offshore.

For FY 87, the local sponsor is requesting $680,000 in preconstruction planning funds for renourishment of Venice/Caspersen Beach.

Project Justification

Local governments and private property owners have been renourishing beaches and building beach erosion control structures in Sarasota County for much of this century. In spite of these efforts, some of the County's beaches have eroded by more than 200 feet in the last 100 years. Sarasota County is experiencing explosive population growth, and adequate beach recreation could be provided for this population and for the ever-increasing number of tourists who visit the area. In addition, the destruction of abutting property improvements (including residences, multi-family developments, public roadways, and utility facilities) could be prevented. The Sarasota County Beaches Project would help meet these goals.

There are possible permitting difficulties due to increased turbidity, destruction of nearshore reefs interference with sea turtle nesting during nesting season, and similar environmental damage.

ENVIRONMENTAL RESTORATION AND ENHANCEMENT

Ballard Park Boat Ramps and Accessibility Improvements
(Project)

Estimated Federal Cost	$500,000
Estimated Non-Federal Cost	0
Federal Funds Through FY 86	0
Non-Federal Funds Through FY 86	0
President's Budget	0
State of Florida Request FY 87	500,000

Project History/Description

This is a new request by the City of Melbourne for $500,000 that, if authorized, would be implemented under the Corps' Code 710 Recreation Program, which is administered within the discretion of the Chief of Engineers.

The existing boat ramps at Ballard Park provide small boat access directly into the Eau Gallie River at a narrow portion of a turning basin. This creates a hazardous condition due to numerous large yachts using this same area. This Primarily, the proposal is to relocate the boat ramps to provide direct access to the Indian River in order to eliminate this hazardous condition and to improve the park's facilities.

The Corps has advised the sponsor that current administrative policies do not allow funding for Code 710 projects.

Project Justification

The project would eliminate the hazard that exists due to the location of the existing boat ramps which results in congested boat traffic and it would provide enhancement of the recreational facilities.

Banana Lake Restoration Feasibility
(Study)

Estimated Federal Cost	To Be Determined
Estimated Non-Federal Cost	To Be Determined
Federal Funds Through FY 86	0
Non-Federal Funds Through FY 86	0
President's Budget	0
State of Florida Request FY 87	$100,000

Project History/Description

Polk County proposed a new feasibility study to identify means of restoring Banana Lake, a 343-acre lake located southeast of the City of Lakeland in Polk County, Florida. The lake is hypereutrophic due largely to the receipt of treated effluent from Lakeland's 10 MGD sewage treatment plant. Although the elimination of discharge by October 1986 will result in improved water quality, the project sponsor feels additional restoration measures are necessary. An option proposed for study is to draw down the lake, consolidate and remove bottom sediments, and revegetate with beneficial aquatic plants.

Project Justification

Banana Lake is in a rapidly developing area close to a large population center (Lakeland). Although it is the only lake with public access in the immediate area, the lake is not used for recreational purposes since it lacks sport fisheries and has poor water quality and odors associated with it.

Additionally, restoration of the lake would benefit the downstream waters of Lake Hancock, which is also highly eutrophic, and the Peace River, which supplies water for DeSoto and Charlotte County communities. Study authorization will be needed.

Biscayne Bay Survey Review
(Study)

Estimated Federal Cost	$1,660,000
Estimated Non-Federal Cost	0
Federal Funds Through FY 86	240,000
Non-Federal Funds Through FY 86	0
President's Budget	0
State of Florida Request FY 87	675,000

Project History/Description

This study is a comprehensive review of environmental impacts from federally-authorized and constructed projects in and adjacent to Biscayne Bay in Dade County, Florida. The Corps of Engineers, acting as the lead federal agency in cooperation with the Federal Department of Transportation, is reviewing such projects as the Intracoastal Waterway (ICW), Government Cut, Bakers Haulover Inlet, the Central and Southern Florida Flood Control Project, and causeway construction to determine whether these and other federally-authorized projects are having a detrimental impact upon Biscayne Bay Funds initially allocated to the U.S. Army Corps of Engineers were used for a reconnaissance survey, which recommended five areas for further study:

1. Snake Creek freshwater discharge,
2. Sediment transfer through Haulover Inlet,
3. Mowry Canal freshwater discharge,
4. Miami River and canal freshwater discharge and sediment transport into the bay, and
5. Spoil island and shoal impacts on turbidity.

FY 84 funds were used to study the impact of Mowry Canal, Black Creek, and Snake Creek canal discharges by analyzing heavy metals and synthetic organic compounds. Similar monitoring in other portions of Biscayne Bay is being done with FY 85 funds.

Congress authorized this study in 1980, appropriated $100,000 to begin it in FY 82 and has irregularly funded it since ($240,000 total). The FY 87 funding request for $675,000 will be needed to continue this study.

Project Justification

Biscayne Bay and the adjacent shoreline have been subjected to intense development and alternations from Federally authorized construction projects. The cumulative impacts of these projects on Biscayne Bay are not known. However, state and locally-funded studies have determined that water quality in the bay is poor, especially north of Rickenbacker Causeway. Excessive turbidity and reduced flushing are major problems. The information being generated by this study is needed for the development of guidelines for the future management of bay resources. A successful project will result in improved environmental quality of Biscayne Bay and enhancement of recreational opportunities.

Recommendation

Funding is recommended.

Jacksonville Metropolitan Park
(Study)

Estimated Federal Cost	To Be Determined
Estimated Non-Federal Cost	$150,000
Federal Funds Through FY 86	0
Non-Federal Funds Through FY 86	0
President's Budget	0
State of Florida Request FY 87	100,000

Project History/Description

The City of Jacksonville is requesting funding for a feasibility study under the Corps of Engineers' Code 710 recreational development program for an urban park located on the St. Johns River, approximately 2 miles from downtown Jacksonville. There is a high demand for outdoor recreation facilities in this area and existing facilities do not meet current needs. The 2005 Comprehensive Plan for the City of Jacksonville and some other studies have recommended a metropolitan recreational center in this area. Metropolitan Park is centrally located, has easy access to the river, and would be an ideal location for a marina and boat ramps. The FY 87 funding request is for $100,000 to initiate the study.

The Code 710 Program remains under a moratorium. At this time, the proposed study can only be placed on a waiting list.

Project Justification

The 2005 Comprehensive Plan for Jacksonville and some other studies agree on the lack of adequate opportunities for outdoor recreation activities in this area. Metropolitan Park would increase recreation opportunities for residents and would attract visitors to the area.

Six Mile Cypress
(Continued Planning and Engineering)

Estimated Federal Cost	To Be Determined
Estimated Non-Federal Cost	"
Federal Funds Through FY 86	0
Non-Federal Funds Through FY 86	0
President's Budget	0
State of Florida Request FY 87	$100,000

Project History/Description

The purpose of this effort is the preservation and management of the Six Mile Cypress Strand by two means: 1) construction of water control structures to prevent overdrainage and 2) acquisition of environmentally sensitive land between Daniels Road and Ten Mile Canal. The Six Mile Cypress Strand is one of the last major relatively-undisturbed cypress areas in Lee County. The strand is located approximately three miles southeast of Fort Myers and runs from State Road 82 southwesterly for ten miles to its confluence with Ten Mile Canal. Over the past several years, development pressures have begun to encroach upon the strand. Overdrainage has occurred and exotic plants have begun to replace the native cypress. The Six Mile Cypress Strand forms a natural buffer between the Fort Myers urban area to the west and the regional airport to the east.

Lee County on its own initiative is purchasing a portion of the strand and desires federal financial assistance in purchasing areas between Daniels Road and Ten Mile Canal. Lee County has also constructed temporary structures at these two locations to slow the rate of overdrainage. The Corps of Engineers is conducting this ongoing feasibility study of possible Federal action in the project area. FY 87 funding will be needed to to begin preconstruction planning.

Project Justification

The Six Mile Cypress Project would protect a unique natural cypress strand from overdrainage and enhance new cypress tree growth in areas which have historically supported such vegetation. This strand of cypress would also provide a natural buffer between the Ft. Myers Regional Airport and the urbanized Fort Myers area.

The Lee County Department of Transportation has expressed concern over further delays in this project proposal. Development pressures adjacent to the Six Mile Cypress Strand could adversely affect the strand's capability to retain stormwater runoff and to recharge groundwater supplies. In addition, as developmental pressures occur, nearby land values increase and could affect the land acquisition phase of this project.

APPENDIX

Governor and Cabinet Resolutions on the Cross Florida Barge Canal

Florida House of Representatives and Florida Senate Memorial to Congress Requesting Deauthorization of the Cross Florida Barge Canal

RESOLUTION

WHEREAS, the Governor and Cabinet of Florida, sitting as Head of the Department of Natural Resources, on August 1, 1972, rescinded their previous policy supporting completion of the Cross Florida Barge Canal through the Oklawaha River Valley and on that date suspended their support of this project until such time as:

1. A new benefit-cost ratio study, which includes up-to-date interest rates and construction costs and re-evaluation of recreational benefits, is completed and demonstxates to the satisfaction of the State that this is a wise expenditure of taxpayers funds.

2. An environmental impact statement, as required by Section 102 of the National Environmental Policy Act, is completed and available to the State for final evaluation as to the environmental effects of the Canal.

WHEREAS, restudy documents were prepared and released by the U. S. Corps of Engineers in the summer of 1976 and did contain a draft environmental impact statement and a benefit/cost ratio study displaying up-to-date interest rates which were additionally updated in December 1976; and

WHEREAS, the Governor and Cabinet of Florida, sitting as the Head of the Department of Natural Resources, on December 16 and 17, 1976, did consider the restudy documents and take public testimony relative to the Cross Florida Barge Canal;

NOW THEREFORE BE IT RESOLVED THAT:

A. The Governor and Cabinet, sitting as the Head of the

Department of Natural Resources, and recognizing the authority of the United States Congress to complete the canal, respectfully:

1. Recommend against completion of the Cross Florida Barge Canal Project.

2. Request the United States Congress to de-authorize the Cross Florida Barge Canal Project.

3. Recommend to the United States Congress that it authorize and appropriate sufficient funds for federal participation in and implementation of the following recommendations:

(a) Establishment of a State-Federal Task Force to study and recommend the best disposition and use of the canal lands with special emphasis on:

(1) Restoration of the Oklawaha River, its designation as a wild and scenic river, and its inclusion in the Ocala National Forest;

(2) Use of other remaining canal lands for public recreational and environmental purposes especially to meet the present and future needs of the canal-area counties; and

(b) Lands previously supplied by the State of Florida to the Federal Government and not necessary for use by the Federal Government for a wild and scenic river system or Ocala National Forest be returned to the State of Florida.

4. Direct the staff of the Department of Natural Resources to coordinate state efforts in an interagency State-Federal Task Force to study and recommend the best disposition and use of the canal lands with special emphasis on restoration of the Oklawaha River, its designation as a wild and scenic river, and its inclusion in the Ocala National Forest.

5. Direct the Division of State Planning of the Department of Administration to study and make specific recommendations for applications to be made by the State of Florida to the United States Congress for funding of sewage treatment construction projects in the State of Florida, for federal impact funds for economically depressed areas, as well as other federal funds which will have an impact on the State of Florida.

B. The Governor and Cabinet, sitting as the Head of the Department of Natural Resources, recommend to the 1977 Florida Legislature that:

1. The responsibilities of the Canal Authority be amended in order to retain public ownership of the lands associated with the project as necessary to accomplish "A" above.

2. Legislation be enacted which will permit appropriate title to be secured for those lands currently held in easement as necessary to accomplish "A" above.

3. Title to the lands associated with the project retained by or returned to an agency of the state be transferred to the Trustees of the Internal Improvement Trust Fund.

4. Chapter 374, Florida Statutes, Part II (Sections 374.301-374.521) be repealed and any funds remaining in the accounts of the Cross Florida Canal Navigation District and not legally obligated, be returned to the counties in the District on a prorata basis, established by the tax monies furnished to the District by these counties.

5. Section 20.25(12), Florida Statutes, be amended to read "The canal authority of the State of Florida, created under part I of Chapter 374, is transferred by a type three transfer to the Department of Natural Resources and the functions shall be assigned to the Division of Resource Management".

6. All such state lands determined not to be necessary for recreation, wildlife or environmental preservation be sold at public sale to the highest bidder and the funds derived be refunded to the counties involved on a prorata basis in the manner established by the tax monies furnished by these counties for the Cross Florida Canal Navigation District. The total monies refunded to the various counties are to be calculated by converting the actual amount furnished to its present dollar value giving the effect of interest charged at average market rates being compounded annually over the total period of financial commitment. Should the funds so derived be in excess, any surplus will be returned to the different counties on a prorata basis. Should the funds so derived be insufficient, the Governor and Cabinet, sitting

as Head of the Department of Natural Resources, recommend to the Florida Legislature that they appropriate sufficient funds to fulfill this obligation.

C. The Governor and Cabinet, sitting as Head of the Department of Natural Resources, direct the staff of the Department of Natural Resources, upon approval and implementation of "B.5", to prepare any additional legislative recommendations for use or disposition of resources and facilities of the project consistent with the above recommendations.

DONE AND EXECUTED at Tallahassee, Florida, this 17th day of January, 1977, A. D.

Reubin O'D Askew
Governor

Bruce A. Smathers
Secretary of State

Robert L. Shevin
Attorney General

Gerald A. Lewis
Comptroller

Bill Gunter
Treasurer

Commissioner of Agriculture

Ralph D. Turlington
Commissioner of Education

As and Constituting the Head of the State of Florida Department of Natural Resources.

ATTEST:

Secretary

RESOLUTION

WHEREAS, the Governor and Cabinet, sitting as head of the Department of Natural Resources, on December 16 and 17, 1976, considered extensive testimony concerning the economic justification and environmental effects of the Cross Florida Barge Canal; and

WHEREAS, by resolution adopted January 17, 1977, the Governor and Cabinet recommended against completion of the Cross Florida Barge Canal Project and requested the United States Congress to deauthorize this Project; and

WHEREAS, the Florida Legislature in 1979 adopted Chapter 79-167, Laws of Florida, which provided for the orderly disposition of Canal lands and facilities upon deauthorization of the Cross Florida Barge Canal Project by the United States Congress; and

WHEREAS, Chapter 79-167, Laws of Florida, provides for refunds to counties contributing ad valorem tax dollars to the Cross Florida Barge Canal Project, plus interest from the date of such contributions, and interest assessments thereunder continue to accrue against Canal assets; and

WHEREAS, litigation has been filed seeking reversion of Canal lands to former landowners which in some instances has been successful; and

WHEREAS, S. 1131 and H.R. 2695 have been filed in the United States Congress and Congress has under consideration the deauthorization of the Cross Florida Barge Canal Project.

NOW THEREFORE BE IT RESOLVED THAT:

The Governor and Cabinet of the State of Florida, recognizing the authority of the United States Congress to require completion of the Canal, respectfully:

1. Recommend against completion of the Cross Florida Barge Canal Project.

2. Request the United States Congress to deauthorize the Cross Florida Barge Canal Project.

3. Recommend the United States Congress appropriate sufficient funds to purchase Canal lands located in the Oklawaha River Valley and included in the extended boundary of the Ocala National Forest as specified in Section 253.781, Florida Statutes.

DONE AND EXECUTED at Tallahassee, Florida, this the 3d day of August, 1983, A.D.

Bob Graham

Bob Graham
Governor

George Firestone

George Firestone
Secretary of State

Jim Smith

Jim Smith
Attorney General

Gerald Lewis

Gerald Lewis
Comptroller

Bill Gunter

Bill Gunter
Treasurer

Ralph D. Turlington

Doyle Conner
Commissioner of Agriculture

Ralph D. Turlington
Commissioner of Education

House Memorial No. 378

A memorial to the Congress of the United States, urging Congress to take whatever action is necessary to provide for the deauthorization of the Cross Florida Barge Canal Project.

WHEREAS, the Legislature of the State of Florida took every available step in 1979 to repeal the Cross Florida Barge Canal Project through the adoption of chapter 79-167, Laws of Florida, and

WHEREAS, any further legislation or action providing for the deauthorization of the Cross Florida Barge Canal requires action by the Congress of the United States, and

WHEREAS, the Legislature of the State of Florida has determined that the Cross Florida Barge Canal Project would have a deleterious effect upon the ecology of the state, would adversely affect the freshwater aquifers of the state, and that the positive benefits of the project would be outweighed by its negative effect on the state's environment, and

WHEREAS, the Legislature of the State of Florida has demonstrated its ongoing dedication to the preservation of the environment by passing legislation to preserve its wetlands and legislation aimed at protecting the state's freshwater aquifers, and

WHEREAS, it is fitting and appropriate that the Legislature of the State of Florida urge the Congress of the United States to take whatever action is appropriate to provide for the deauthorization of the Cross Florida Barge Canal Project, NOW, THEREFORE, Be It Resolved by the Legislature of the State of Florida:

That the Congress of the United States is requested to take whatever action is necessary to provide for the deauthorization of the Cross Florida Barge Canal Project.

BE IT FURTHER RESOLVED that copies of this memorial be dispatched to the President of the United States, to the President of the United States Senate, to the Speaker of the United States House of Representatives, and to each member of the Florida delegation to the United States Congress.

Filed in Office Secretary of State May 16, 1985.

B. EVERETT JORDAN LAKE, NC—OPPOSITION

Senator JOHNSTON. Finally, we have also received a statement from the Chatham Trails Committee on the B. Everett Jordan Lake in North Carolina which I will place in the record at this point.

[The statement follows:]

STATEMENT OF CHATHAM TRAILS COMMITTEE CONSERVATION COUNCIL OF NORTH CAROLINA, FRIENDS OF STATE PARKS, NEW HOPE AUDUBON SOCIETY, NORTH CAROLINA CHAPTER OF THE SIERRA CLUB, AND RESEARCH TRIANGLE GROUP OF THE NORTH CAROLINA SIERRA CLUB

In May, your Committee will be considering a request of $8.7 million from the U. S. Army Corps of Engineers for the B. Everett Jordan Project in North Carolina. Of that amount, $5.6 million is for construction of the Poplar Point recreational campground. This facility is to contain 590 tent and trailer sites, boat ramps and a swimming beach for the campers on 580 acres.

It is the position of the undersigned that the funding of this project should not be granted at this time. There are significant questions that need to be answered before consideration is given for funding. These questions are as follows:

I Is the Development of Poplar Point the Best Use of Federal Funds?

II How will Poplar Point Affect the Bald Eagles?

III Who will Pay for the Services?

These questions and our positions are detailed in the attached statement. Also included are supporting documents. Please advise us if additional information is needed.

We look forward to receiving your comments and request that your committee keeps us informed as you proceed with this appropriations request.

I Is Development of Poplar Point the Best Use of Federal Funds?

This request for $5.6 million comes at a time when Congress is mandated to make cutbacks in federal spending. Your committee's deliberations will take into consideration not only this obligation to reduce federal expenditures but also what obligations there are for the U.S. Corps of Engineers to provide recreational resources at its Jordan Lake Project. In the Enivironmental Impact Statement of November 1971, recreation was highlighted as a purpose for establishing the reservoir. More specifically, the EIS states that " The New Hope Lake (Jordan) project will have a major recreational impact...Eventual utilization of all recreational areas will provide a broad range of facilities..."(Attachment A,p.17).

It is our contention that if limited federal monies are made available for recreation that the funds should be for projects that fulfill the Corps promise to provide a "broad range of facilities" and that address the diversity of recreational needs of the area. The Poplar Point campground is not such a facility.

In the EIS and the Master Plan of 1977, a broad variety of recreational activities were specified for Jordan. These included: tent and trailer camping, boat ramps, primitive camping, numerous day-use areas for picnicing and swimming, extensive trail systems, and nature study areas. It is our understanding that initial development plans are for 52 boat ramps, over 1,000 tent and trailer sites and just 2 beach areas for day-use. The variety of the types of recreational activities earmarked by the Corps for initial construction is severely limited. In determining the development priorities at Jordan, the Corps has focused its recreational development without giving adequate recognition to other recreational needs of the area. Since the original planning, formal public input to determine the priorities for recreational development has been lacking.

There is a significant demand for the other recreational activities identified in the original plans. The surrounding six county area has a population of 672,001 (1980 census) and is rapidly urbanizing. With the resulting decrease in rural and wild lands available for recreation, needs for a broad range of day-use activites at the lake have become more prominent. In addition, there are numerous groups and organizations in the area that focus on outdoor recreation and education. There are, for instance, over 12,000 Scouts, 2,600 Sierra Club members, 1,000 Audubon members and active members in several canoe clubs. These are people who seek such activites as canoeing, primitive camping, hiking, biking and nature study- those very activities that have not been given initial consideration for construction (Attachment B).

We are fully aware that at this time of increasing budget restraints, it is highly unlikely that monies for these activities will be appropriated in the future. At Jordan, the Corps is to fund 100 percent of costs of initial programmed development and future facilities will have to be cost-shared with the state, a state that has historically had limited funds for recreation.

In consideration of recreational diveristy, it is of value to note that within 70 miles of the Jordan Project, there are two other US Corps of Engineers reservoirs: Kerr Lake and Falls Lake. At these reservoirs, there are over 2,700 campground units that are either built or proposed for development which are similar to the type planned for Poplar Point. There are 700 units at Kerr Lake, over 1,000 in the Master Plan for Falls and, as mentioned previously, around 1,000 for Jordan Lake. Poplar Point would be the largest with 590 units on one site and would be one of just a few of such a size ever to be built by the Corps anywhere in the country.

It is our position that, given the pressing need to reduce the federal deficit and the fact that a significant number of campgrounds exist or are in the plans, funding of the Poplar Point facility cannot be justified.

Additionally, it is our position that, if Congress determines that it is obligated to fund recreational development at Jordan, consideration be given first to needed recreational facilities that have not been addressed such as primitive camping, and a broader range of day-use facilites. These developments, as with any development at Jordan, should not be considered until the bald eagle studies have been done.

II How Will Poplar Point Affect the Bald Eagles?

According to the U.S. Fish and Wildlife Service, Jordan Lake may be the most significant summer roost for bald eagles in the Southeastern U.S.(Attachment C). Since the lake was built, there have been several eagle sightings by various bird clubs. During 1985, there was a substantial increase in the eagle count. The highest number sighted was 42 in July.

Because of this increase in sightings, the New Hope Audubon Society, a local chapter of the National Audubon Society, organized and supervized a more systematic study of the eagle use-patterns at Jordan Lake and has made known their recommendations (Attachment D). Having only a handfull of volunteers to work with, the group limited its study, mainly to the northern section of the lake where one roosting site was known to be located. The lack of manpower and financial resources have hampered the group's ability to gather sufficient information about the eagle use of other areas on the Project. Staff from the North Carolina Wildlife Resources Commission and the U.S. Fish and Wildlife Service, in expressing support for a more in-depth study, acknowledged that eagles have been sighted in the southern section of the lake, in areas around the planned Poplar Point facility but are unable to give more definitive information because no studies have been conducted.

Recognizing that there is just a minimal amount of information available, the U.S. Corps of Engineers recently agreed to allocate $300,000 for a long term study of the use of the Jordan Project by bald eagles. This study is to begin this year and will be conducted over a two year period. According to Bill Adams, a staff biologist with the Corps in the Wilmington District, the first year of data collection should provide sufficient information to determine management decisions for the bald eagles.

It is our contention that the Poplar Point facility has the potential to negatively impact the bald eagles population at Jordan. The campground is one of the largest in the United States and would be the largest in North Carolina. It is the one facility planned for the lake which would bring in the greatest number of people. The 590 sites have a capacity to house over 2,000 people and the impact created by the users will be felt throughout the Project. This facility will substantially increase boat traffic and land use in all areas of the lake and thereby increase disturbance of the eagles.

It is our position that no further recreational development should occur at Jordan until the eagle studies are completed and until consultation under Section 7 of the Endangered Species Act on the Master Plan of the Project has occurred. Consideration of funding of the Poplar Point facility should be delayed until adequate information is gathered on the impact of development on the bald eagles. The citizens in this area are excited to have the eagles here and feel that their protection should be given the topmost priority in any plan for Jordan.

III Who Will Pay for the Services?

The Jordan Lake Project falls mainly within Chatham County, a rural county of 707 square miles and a population of 33,000. The county has projected that its costs for providing services to the Jordan Lake area at the time the recreational development is completed could be as high as $300,000 per year. This amount includes costs for protective services and for trash management (Attachment E).

Another cost that the county is facing is the loss of tax revenue from the 40,000 plus acres that fall within this federal project. This amount is calculated to be about $200,000 using the lowest tax rate (the county receives $29,916 in payment in lieu of taxes).

In considering these burdensome costs, the county has sought assistance at the state and federal levels (Attachments F&G). Some of the questions being asked are:

> Are the county residents going to have to cover these costs with an increase in property taxes?
> Is the payment in lieu of taxes going to continue and, if so, at what rate?
> Is the law enforcement payment going to be available in the future and, if so, at what level? (Attachment H)
> Is the state able to provide some of these services?

Over the past year, county officials have met with various state agencies, the U. S. Corps of Engineers and Representative Bill Cobey to seek answers to these questions (Attachment I). At this time no satisfactory answers have been received.

What has been determined from these meetings is that time is needed to gather data relative to the costs that will accrue to the county as a result of the Jordan Lake Project. The county and state have agreed to collect this relevant data during 1986.

Also in these meetings, the county has been told by the state that some of the services , those primarily relating to protection, will be provided by the state once it assumes management of the recreation areas. In light of the limited resources availble to the state, it is questionable that much relief will be provided.

The Division of State Parks and Recreation will take on management and operational costs of the 1,000 plus campsites and several day-use areas planned for the Project. In addition, the Division will have, in the very near future, responsibilities to manage 3,999 acres at Falls Lake, a Corps project to the north of Raleigh. The costs are coming to a state agency that has historically been poorly funded and as a result is currently faced with critical needs.

The most recent review of the Division, the 1985 "Report of the State Parks Study Commission," (Attachment J) highlighted the Division's funding problems. It states that "Although North Carolina has the most extensive local park and recreation system in the United States, in 1983 it ranked forty-ninth in per capita expenditures for State Parks and Recreation Areas." (p.1) and that "What is needed to keep our State parks and recreation areas safe and in a useful condition for the millions who visit each year does not match the resources on hand to do just that." (p.12).

The Report also identified the critical problems facing the Division:

staffing-"in some parks there are hours when there is no permanent staff on duty, during busy or slow season;...ten of the parks within the system have only two staff members on duty--and they are expected to keep the gates open seven days a week, year round;" (p.7)

compensation-"Rangers are managing resources worth millions...Unfortunately, the lowly compensation makes some rangers families eligible for the food stamp rolls." (p.6)

acquisition of lands-"A slow down in state aquisition funding since 1979 and the growing difficulties in obtaining gifts of land leaves 9,579 acres yet to be aquired--just to meet goals set five years ago..." (p.9)

maintemance-"Our park officials now deal with facilities buitl in the pre-World War years...Many are approaching their fiftieth birthday, relatively unchanged since original construction and carefully patched up." (p.11)

Costs to meet these needs are substantial. Given the cutbacks facing the state from the declining federal revenues, they are unlikely to be met.

It is our position that the construction of the campgrounds at Poplar Point should not begin until these economic questions are answered. Poplar Point, with a potential to house over 2,000 people, is the one facility on the lake that will place the greatest demand on county services. Resources from the state are severely limited and those available are essemtial for the management of the current park system. How the services are to be funded is one vital question that needs to be determined before the funds for construction are appropriated.

ATTACHMENT A

FINAL ENVIRONMENTAL STATEMENT

NEW HOPE LAKE, HAW RIVER BASIN, NORTH CAROLINA

PREPARED BY U.S. ARMY ENGINEER DISTRICT, WILMINGTON, NC

Reduction of flooding as a result of the New Hope Lake project will enhance the value and utility of more than 200,000 acres downstream, now subject to flooding. This area includes much of southeast Fayetteville, as well as the sites of that city's sewage treatment facilities. A portion of the affected area of Fayetteville is now included in a Federally-assisted urban renewal program; the Federal Housing Administration has declared that they cannot participate in the program until completion of the New Hope Lake project insures that flooding will be prevented.

f. Social and Economic Environment. The guarantee of a more dependable river flow as a result of the New Hope Lake project could lead to more industrial development along the Cape Fear River, especially at Moncure, Fayetteville, and Elizabethtown. Total investment in new plants along the river since 1965 is estimated to exceed $300,000,000.

Completion of the project will lead to improved potential for economic development in a region now showing a low per-capita income, and will allow an orderly transition from an agrarian way of life to decentralized industrial employment. Out-migration from the region to major urban areas will be reduced, and the standard of living will improve.

Relocation of the 73 families now within the project area will be in accordance with the provisions of the Uniform Relocation Assistance and Real Property Acquisition Act of 1970, which, in many cases, will result in an improvement in living conditions. Many of the families already relocated have found new homes of substantially better quality. In addition, the large number of visitors to the New Hope Lake project's recreation opportunities can be expected to spur economic growth in the vicinity of the project.

g. Transportation Facilities. The primary and secondary road relocation plan for roads affected by the project will assure that important arteries are not affected by the project. In addition, reconstruction of the relocated roads to current standards will improve the quality and safety of many roads. The North Carolina State Highway Commission is participating in the relocation of U. S. 64, bearing the cost of two additional traffic lanes. The 2.8 miles of U. S. 64 across the project will be the first stretch of four-lane highway in Chatham County. Replacement of 18.5 miles of Norfolk Southern Railroad branch line with a new right-of-way, including two grade separations, will also improve the quality of transportation facilities.

h. Recreation Resources. The New Hope Lake project will have a major recreational impact on a region which is the center of North Carolina's population and industry as well as the home of its major educational institutions. A total of 28 areas (approximately 11,117 acres) within the project lands have been selected for development as recreational areas, of which 16 will be developed initially by the U. S. Army Corps of Engineers. Eventual utilization of all recreation areas will provide a broad range of facilities to a recreation-hungry area of North Carolina, including campsites, picnic areas, boat-launching ramps, boat docks and marinas, fishing piers, and nature trails.

ATTACHMENT B

[Excerpt from New Hope Audubon Society Newsletter, April 1986]

CORPS SHOULD RECONSIDER ITS MASTER PLAN

We would like a chance to respond to statements made in your paper Feb. 11 by Gus Moore, district planner for the Army Corps of Engineers. He implied that the Corps' master plan for Jordan Lake became written in stone 10 years ago and that any new proposals are out of luck simply by virtue of their being "johnny-come-lately."

We, however, believe that the many changes that have occurred in our area over the past decade, some drastic, warrant a major review of the Corps' master plan. No one, for instance, foresaw that Jordan Lake would become a primary summer roost for bald eagles. That fact alone should give the Corps pause to reconsider both the pace and scale of its development of the lakefront. Neither could anyone have guessed 10 years ago at the rapidity of our current loss of wildlife and their habitat in the Triangle region.

Our proposal for a conservation education center represents our best hopes for preserving what we can of our vanishing wild and rural lands. The effort needed for success must involve the entire community, and that requires education.

The historic John A. Mason Farmhouse on Jordan Lake would provide an ideal center for this kind of education. This was, in fact, pointed out in the Corps' original survey of the area. We do not have the space here to argue the merits of our case versus that of the gun club that would like to develop the site as a shooting range. We would, however, like to mention that our proposal has won the support of the Chatham County Commissioners, the superintendents of the Chatham C. and Chapel Hill-Carrboro School Systems, Congressman Cobey, and State Representatives Barnes and Hackney, to name but a few. Perhaps most significantly, we have received the staff endorsement of the N.C. Wildlife Resources Commission, which administers the site as gamelands and with whom we would jointly operate the education center.

All we are asking for is a fair hearing for our proposal. We hope that the Corps can break some truly new ground by reconsidering their master plan in light of current conditions, and especially in recognition of our widespread public support.

ATTACHMENT C

LETTER FROM RICHARD G. BIGGINS, ACTING FIELD SUPERVISOR, DEPARTMENT OF THE INTERIOR

August 9, 1985

Colonel Wayne A. Hanson
District Engineer
U.S. Army Corps of Engineers
P.O. Box 1890
Wilmington, North Carolina 28402

RE: 4-2-85-601

Dear Colonel Hanson:

This letter serves as a follow-up to the recent meeting of our respective staffs and personnel with the North Carolina Wildlife Resources Commission and State Parks and Recreation Division to discuss the bald eagle roost at B. Everett Jordan Lake, Chatham County, North Carolina. The most recent surveys of this roost indicate that there are now 42 bald eagles using the Mason Farm Peninsula, making this probably the most significant summer roost in the Southeastern United States.

The Recovery Plan for the Southeastern States Bald Eagle (FWS, 1984) has determined that "efforts to protect essential habitat for wintering bald eagles [summer roosts are much rarer and have not been extensively studied to date] should emphasize maintenance of water quality, fish and waterfowl prey for the eagles, perch sites along shorelines, night roost sites and an environment for the eagles in which they will not be harassed by human beings." Detailed recommendations for managing roosts and feeding areas are contained in the "Bald Eagle Management Guidelines" section of the Recovery Plan.

The master plan for Jordan Reservoir includes a proposed shooting range, campground, and associated facilities for the Mason Farm Peninsula, approximately one mile from the site of the eagle roost. Renovation and restoration of the historic Mason farmhouse, which is also located in this area, is planned as well. Since the recent on-site meeting, it has come to our attention that there is also a public dove field located on Corps land immediately across the road from the eagle roost, which is being managed by the North Carolina Wildlife Resources Commission and was scheduled to be open for hunting this season.

As you are aware, Section 7 of the Endangered Species Act requires that any federally related activity which may affect an endangered or threatened species must undergo formal consultation with the Fish and Wildlife Service before any contracts are let or construction is begun. We are confident that solutions to these potential conflicts can be worked out during the process of consultation. In the meantime, and until the entire master plan for the lake can be examined for compatibility with eagle use of the Mason Farm Peninsula roost site and related feeding areas, our preliminary recommendations are as follows:

(1) Although some recreational uses of Mason Farm Peninsula may be compatible with eagle use of the site, alternative locations for the shooting range should be thoroughly explored. Previous experience in other parts of the country indicates that nesting and roosting eagles are capable of habituating to high noise levels (such as at the Aberdeen Proving Grounds in Maryland, New Orleans International Airport, etc.); however, all disturbance factors associated with such a shooting range must be thoroughly considered before any action is taken. Of particular concern would be any facilities (such as a campground) involving potential disturbance of the roost by people on foot.

(2) It is recommended that the dove field near the eagle roost be closed to hunting as long as eagles are present in the area. It is our understanding that this dove field, although managed by the North Carolina Wildlife Resources Commission, is located on Corps land and therefore under ultimate control of the Corps.

(3) Because they are so uncommon, very little is known about summer bald eagle roosts. In order to conduct the Section 7 consultation, it will be necessary to gather as much information as possible about this area and what characteristics make it attractive to eagles in order to ultimately develop a management plan for these birds on Jordan Lake. It is recommended that, if possible, an expert such as Dr. Mitchell Byrd, College of William and Mary, or Dr. Jim Fraser, VPI, both of whom have substantial experience with summer roosts in the Chesapeake area, be engaged as a consultant to assist in development of a management plan.

Section 7 consultation should be initiated with this office as soon as possible for the Jordan Lake master plan. Work which has not yet begun or for which no contracts have been let must be delayed until formal consultation has been completed, as required by the Endangered Species Act. Questions should be addressed to Nora Murdock or John Fridell of this office (FTS 672-0321).

Sincerely yours,

Richard G. Biggins
Acting Field Supervisor

ATTACHMENT D

LETTER FROM KATHY KUYPER, PRESIDENT, NEW HOPE AUDUBON SOCIETY

December 19, 1985

Col. Wayne A. Hanson
U.S. Army Corps of Engineers
Wilmington District
PO Box 1890
Wilmington, NC 28402

Dear Col. Hanson:

New Hope Audubon Society, a local chapter of the National Audubon Society, is committed to the protection of the bald eagles at Jordan Lake and wishes to support the protection efforts of other groups involved in the administration of the lake. Members of New Hope Audubon have been involved in numerous activities directly or indirectly related to the eagles, including initiating and participating in numerous eagle counts during 1985. The Board of Directors of New Hope Audubon discussed the current situation at the lake at its most recent meeting and adopted several policies which we felt appropriate to bring to your attention.

We support the proposed research study to be conducted in the Jordan Project. The information from our monthly eagle counts will continue to be available, and we will be glad to volunteer to participate in the research study in other ways as well. However, we feel that it may be both possible and desirable to make some appropriate land and water use decisions prior to obtaining final research results. Therefore, we have also adopted the following policy:

New Hope Audubon Society strongly recommends that the Corps develop a revised Environmental Impact Statement and Management Plan, related to the presence of bald eagles at Jordan Lake, addressing both land and water uses and their impacts, and that the Corps suspend any and all further development in the Jordan Project, including the Poplar Point Campground, until this revised EIS and Plan has been approved. If the Corps adopts this policy, New Hope Audubon Society recommends allowing the current level of boat traffic, with its attendant land use, to continue on the entire lake in the interim.

However, if the Corps does continue to develop recreational use facilities on Jordan Lake before a revised EIS and Plan has been approved, New Hope Audubon Society supports the policy of restricting motorized boat traffic at least above SR 1008, and also recommends that the Corps regulate land use above SR 1008. Such restriction is necessary because of greatly increased motorboat traffic and land use that would result from the continued development.

We are very pleased that the Corps has shown an interest in accomodating use to protect the eagles, and welcome further communication with you on this topic of mutual interest.

Sincerely, -

Kathy Kuyper

Kathy Kuyper
President, New Hope Audubon Society

ATTACHMENT E

STATEMENT OF CHATHAM COUNTY BOARD OF COMMISSIONERS

Chatham County has the following concerns about the Jordan Lake:

1. Lost tax revenues

   Over 40,000 acres of land was removed from the tax base of Chatham County. Under the most favorable rules available (i.e. Land Use Valuation) Chatham County would have been collecting at least $150,000 and probably closer to $200,000 each year in property taxes had the Lake not been built. This has reduced money available for schools and other services.

   TVA lands in western North Carolina provide for 100% reimbursement to counties for lost tax revenues.

   Federal payment in lieu of taxes is based upon $ .75 per acre. County currently receives about $30,000 per year.

   Gramm-Ruddman deficit reduction law will probably cause elimination of the payment in lieu of taxes.

2. Cost of Services furnished by Chatham County

   Lake has been designed to attract 3,000,000 persons annually, 27,500 per day , figures which Corps and NRCD acknowledge will be exceeded.

   Demands upon County include:
      Law Enforcement
      Rescue Squads
      Fire Protection
      Emergency Management - Shearon Harris
      Trash Collection
      Landfill

   Sheriff estimates 12 deputies will be required to provide 24 hour patrols of campsites and parking areas to prevent breaking and entering and drunkeness. This will cost a minimum of $250,000 and more likely $300,000 per year.

   County estimates other costs to be about $50,000 per year.

   Will need to construct Fire-Rescue-Sheriff station at Lake.

3. Cost of Jordan Lake Water

   Cost recovery formula of $50,000 per 1 million gallon per day allocation.

Chatham County requested 20 MGD allocation for its future needs. Charge will be $1,000,000. Other jurisdictions seeking water have not had to bear burden of lost tax base or provide any services. Therefore, Chatham pays three ways while others pay only for water.

Note: cumulative lost tax revenue has exceeded $1,000,000.

Possible solutions:

1. Include Chatham County costs in the costs which NRCD recovers in user fees paid by campers and boaters. In exchange Chatham County will provide Lake area with services comparable to rest of county.

2. Contract with Chatham County for each service on basis of true cost reimbursement.

3. Have State/Federal personnel perform all services and receive no services from Chatham County.

4. Consider Chatham County's water allocation already paid for in light of cumulative lost tax revenues.

5. Provide State/Federal funding for Rescue /Fire / Sheriff station.

ATTACHMENT F

RESOLUTION OF CHATHAM COUNTY BOARD OF COMMISSIONERS

RESOLUTION

WHEREAS, the B. Everett Jordan Lake was developed within Chatham County by the United States Army Corps of Engineers; and

WHEREAS, Chatham County will be expected to provide services for the three and a half million visitors to this project; and

WHEREAS, the Chatham County Board of Commissioners feels that it has not been given sufficient information to determine:

(1) the types of services the County is expected to provide

(2) the costs for these services

(3) the time period when they will be required to begin

(4) and what reimbursement will be available through the State and Federal governments;

and

WHEREAS, the plan for the 590 site Poplar Point Campground indicates that the county will be expected to provide major services for this facility, and

WHEREAS, the Army Corps of Engineers will soon be receiving bids for the construction of the Poplar Point facility;

NOW, THEREFORE, be it resolved by the Board of Commissioners of Chatham County that the Board requests the Army Corps of Engineers and North Carolina Department of Natural Resources and Community Development to provide Chatham County a full opportunity to participate in all future planning conducted in connection with the development of facilities at Jordan Lake.

This the 19th day of August, 1985.

Earl D Thompson
Earl D. Thompson
Chairman Board of Commissioners

Attest:
Hazel P. Boone
Clerk to the Board

ATTACHMENT G

[From the Durham Morning Herald, Oct. 8, 1985]

LAKE A BAD DEAL FOR CHATHAM, BOARD COMPLAINS

(By Tom Oliver, Herald Raleigh Bureau)

PITTSBORO—Jordan Lake is a bad deal for Chatham County taxpayers, the county board of commissioners told Congressman Bill Cobey's office Monday.

Chatham taxpayers are having to pay too much of the cost and receiving too little of the benefits from the lake, the Chatham County Board of Commissioners told John King, an aide to Cobey.

Almost all of the lake is in Chatham County. Flooding prime farmland to create the lake took property off county tax rolls. Now, State and Federal rules limiting property use around the lake restrict Chatham County growth more than any other county in the watershed that feeds the lake, the commissioners said.

Meanwhile, Chatham has no special claim to use of the water and has to pay the cost of law enforcement and garbage disposal in the recreation areas around the lake, the board members said.

State and Federal rules protecting the lake forbid industry, stores, and restaurants to build along the shore and limit home construction, the commissioners complained.

The lake is a tremendous source of water for industrial and residential growth and the water quality must be protected, Commissioner Gus Murchinson, Jr, said.

But, he mused, Chatham County has no more claim to the water than neighboring counties that bear little or none of the financial burden of the lake.

"We could get a lot more excited about protecting the lake if we knew we had as good a chance to get water for a countywide water system as Cary and Raleigh have of getting most of it," Murchison said.

The State will decide which towns will be allowed to take water from the lake. The money those towns pay for water will go to the State, he said.

Meanwhile, Chatham taxpayers are paying for law enforcement and garbage disposal for campers and boaters, the commissioner said.

The campgrounds and marinas planned for the lake are designed to serve 27,500 people a day. Holiday crowds at the lake could exceed the 34,000 population of the county, the commissioners said.

The campers and boaters pay fees to use the lake, but that money goes to the State, the commissioners said.

The county will collect some sales taxes from people buying picnic supplies, but not much, Murchinson said.

Because stores are kept so far from the lake, most fishermen and campers buy their supplies before they leave home, Murchinson said.

'We get their trash. They buy their groceries in Wake and dump their garbage in Chatham," he quipped.

Because the campgrounds are crowded on weekends and lightly regulated, deputies are called to help settle disputes, Sheriff Jack Elkins said.

"One group of campers wants to sleep while the neighboring group is having a party. You know what happens," Elkins said.

Deputies must also patrol public launching areas to prevent thieves from robbing the cars parked there by boaters, the sheriff said.

When all of the planned campgrounds are completed, he will need to add 15 to 20 deputies to his current 25-deputy force, Elkins predicted.

The federally owned 39,000 acres around the lake in Chatham County had a value of $400 an acre as undeveloped forest. With no buildings, it would yield $112,000 a year in property taxes, County Manager Marvin Hoffman said.

The true value is substantially higher than that. The Federal Government pays no property taxes, but contributes about $30,000 a year to the county. The county has been told the Federal Government plans to end that small contribution to the cost of maintaining the area, Hoffman told King.

Cobey was scheduled to attend the meeting but stayed in Washington, DC, because a congressional vote on Federal farm subsidy legislation was scheduled Monday. Cobey sent King, his administrative aide, to the meeting.

ATTACHMENT H

[From the Chatham Record, April 10, 1986]

BOARD SAYS CORPS FUNDS NOT ENOUGH

(By Cassie H. Wasko)

The $8,900 offered by the U.S. Army Corps of Engineers to pay for law enforcement at the lake just isn't enough, the board of county commissioners said Monday as they agreed to submit an alternate proposal.

For the past 2 years, the Corps has paid the funds to provide service 6 days a week, 8 hours a day, and after the first year, they were told the funds were not sufficient.

The county had to hire an additional man to cover those hours, and provide a car.

Last year, the Corps increased the rate per hour the deputy could be paid, Marvin Hoffman, county manager, said, but then the number of hours was reduced. Therefore, the county ended up with the same amount of money.

This year, Federal cuts threatened to end the program, but the commissioners were told Monday that the same amount of money as last year will be available.

Hoffman recommended sending a letter refusing the funds and refusing to provide the service, but Bob Gunn, county attorney, pointed out that the county is responsible for providing law enforcement.

"We don't have to send a deputy up there to walk around 8 hours a day," Hoffman pointed out. The contract that paid the funds required that a Chatham County deputy patrol areas around the lake.

Gunn agreed, and suggested that the county agree to provide the service, but not below costs.

Hoffman also pointed out that hearings that could result in $8.5 million in improvements to the Parkers Creek area would be held the first week of May.

"That seems crazy to build more facility than you can take care of," Hoffman said, referring back to the lack of law enforcement coverage for the area.

"There's no other place in the county where you are guaranteed to have law enforcement on your property * * * 8 hours a day," he told the commissioners. If there aren't funds to cover the costs of the service, "we ought to quit providing the service," he said.

He also pointed out that Congressman Bill Cobey sent an aide here a number of months ago to discuss problems at the lake, and so far, that connection has not helped.

Henry Dunlap suggested that the offer of fewer hours of manpower or more money be presented to the Corps. The lesser hours would mean weekend coverage only.

Hoffman was instructed to make the offer.

This year, the need for rescue and law enforcement services, trash pickup, and fire prevention services are expected to increase remarkably since the Parkers Creek area will be opening and offering about 200 campsites.

Although a study underway by Dean Moss, a planning consultant, indicates that the lake is not being used to the extent anticipated by the Corps, the new recreational area should increase the number of users who come into the county for a brief period of time.

Congressman Bill Cobey, apparently unaware of the situation here in spite of a joint meeting with county officials and Thomas Rhodes, N.C. Department of Natural Resources, and community development secretary in December, expressed pleasure at the limited funding the county was offered.

"I'm very pleased that the Corps has agreed to help Chatham County," Cobey said in a press release Monday.

"Since the Corps has not completed construction at Jordan Lake, I think it's reasonable for them to assume some of the cost for patrolling the area still under their jurisdiction. When all the recreation areas are complete, the State park rangers stationed at the lake can help the county more with regular patrols," he said.

Cobey said the funding may continue until 1988.

However, he apparently failed to discuss the issue with the board of commissioners prior to making the announcement of the funds this week.

ATTACHMENT I

LETTER FROM REPRESENTATIVE BILL COBEY OF NORTH CAROLINA

October 11, 1985

Colonel Wayne A. Hanson
District Engineer
U. S. Army Corps of Engineers
Post Office Box 1890
Wilmington, North Carolina 28402

Dear Colonel Hanson:

Recently John King, my Administrative Assistant, met with the Chatham County Commissioners to discuss some concerns they have with the Jordan Lake project. Below I have listed these concerns and would like to ask for your response.

1. How long will the current level of funding from the Department of the Interior for funds in lieu of property taxes continue? Currently the payment is $29,916.00 annually.

2. Currently the Corps of Engineers provides Chatham County with funds to pay for law enforcement in the lake area.

What would be the process to get this amount increased while the lake is still under the responsibility of the Corps? Who will have the responsibility of law enforcement after the lake is turned over to the State of North Carolina? What has been the experience of other Corps projects in North Carolina in regard to law enforcement?

3. There is a great deal of concern with the number of campsites that are proposed for the recreational area. I question the need for the addition of 590 campsites at Poplar Point until the current campsite areas are being fully utilized. With the population growth around the lake, specifically in the U.S. Highway 64 area and expanding traffic congestion at the U.S. 64 and S.R. 1008 intersections, Poplar Point does not seem to be the best location for this large a campsite area.

I am also enclosing a copy of a letter from Chatham County Administrator, Marvin Hoffman, which explains in more detail some of the concerns listed above.

Thank you for your help in this matter.

Sincerely,

Bill Cobey
Member of Congress

ATTACHMENT J

REPORT OF THE NORTH CAROLINA STATE PARKS STUDY COMMISSION

February, 1985

TO THE MEMBERS OF THE 1985 GENERAL ASSEMBLY:

The State Parks Study Commission by this document reports to the 1985 General Assembly under the authority of Chapter 1112 of the 1983 Session Laws (House Bill 738).

Respectfully Submitted,

Senator Henson P. Barnes	**Representative Narvel J. Crawford**

Cochairmen
State Parks Study Commission

INTRODUCTION

It has been sixty-nine years since Governor Locke Craig shuddered at the sight of loggers near Black Mountain obliterating a beautiful mountain top. His reaction led to the State's purchase of Mount Mitchell a few months later and the beginning of the North Carolina Parks and Recreation System.

The numbers associated with the State Parks and Recreation areas of today would stagger the imagination of Governor Craig--5.7 million visitors annually to land and facilities conservatively valued at $350 million.

Forty-one areas covering 119,000 acres of land and water are managed by the Division of Parks and Recreation under the Department of Natural Resources and Community Development. These forty-one areas include twenty-eight parks, eight natural areas, one scenic river, three recreation areas, and one state lake.

In 1984, Chapter 1112 of the 1983 Session Laws (House Bill 738) created the State Parks Study Commission and authorized it to study with highest priorities: the need for funds for land acquisition and development of new and existing facilities; the need for additional personnel and for better salary levels for parks personnel. In addition, the Commission could study efforts to increase public awareness, financing alternatives, use of volunteers, support for natural heritage, rivers and trails, public access programs, and any other issues pertinent to the future of our State Parks and Recreation System.

There are fewer better pursuits of government than to preserve our natural heritage. Although North Carolina has the most extensive local park and recreation system in the United States, in 1983 North Carolina ranked forty-ninth in per capita expenditures for State Parks and Recreation Areas.

North Carolinians have always loved their land. The task of protecting our natural showcase is finite and immediate. This report will document that the time is now or never for ourselves, our children and their children.

LEGISLATIVE BACKGROUND

The first legislatively-mandated study of State Parks in North Carolina was conducted in 1968 by the State Parks and State Forests Study Commission. The major emphasis was to identify and locate the parks. The Commission recommended the following program:

1. Enlarge the Park System to accommodate an additional 2.1 million visitors per year by adding at least 15 new areas;

2. Locate a park within an hour's access of every citizen in the State;

3. Upgrade existing facilities;

4. Expand staff for site planning and development;

5. Insure access to public waters; and

6. Provide for equitable location of parks.

The Commission endorsed a land standard of 20 acres per 1,000 of population and acquisition of 58,675 acres by 1980. (A copy of the report is on file in the Legislative Library.)

In 1977, legislation was passed creating a State Parks Study Commission to prepare a report on the needs of parks and recreation in North Carolina. The major emphasis was to make the park system more usable for citizens. A five-year plan was developed, and it recommended the following:

1. Expand existing parks and recreation areas by over 20,000 acres;
2. Complete 156 capital improvement projects at 31 sites;
3. Increase staffing by 88% (48 permanent and 42 seasonal employees);
4. Identify and establish a system of protected natural areas;
5. Establish a Mountains-to-Sea Trail;
6. Increase revenue by rental fees from cabins and marinas; and
7. Expand services to local park and recreation efforts.

(A copy of the report is on file in the Legislative Library.)

The State appropriations history of parks and recreation has been spotty. During the period 1915-1946, the State spent a total of $57,8[illegible] for land acquisition and $47,655 for development. Historically, 84% of the land, other than natural lakes, for State parks has been acquired through gifts or transfers of publicly-owned lands. By 1968 gifts totalled 19,651 acres as compared with purchases of 3,729 acres. The operating costs of the Park System in 1968 was double the amount of ten years previous.

The 1979 Study recommended expenditures of $30 million. The Department of Natural Resources and Community Development has received and spent only $3 million since 1979 ($2.5 million was federal money, $.5 million state money). Only 4,000 acres have been purchased since 1979. There have not been any appropriations for capital improvements or land acquisitions since 1982-83, other than individual legislator's special appropriations.

The following chart details the appropriations record over the past decade:

Appropriations [illegible] Parks Since FY 73-74

	Land Acquisition		Capital Improvements		
Year	New Direct.	Actual	New Direct	Actual	TOTAL
73-74	NA	$ 11.5 M	NA	$ 2.5 M	$ 14.0 M
74-75	NA	$ 5.5 M	NA	$ 3.0 M	$ 8.5 M
75-76	NA	$ 0.5 M	NA	$ 1.0 M	$ 1.5 M
76-77	NA	$ 0.5 M	NA	$ 0.8 M	$ 1.3 M
77-78	NA	$ 0.5 M	NA	$ 1.2 M	$ 1.7 M
78-79	NA	$ 0.5 M	NA	$ 1.2 M	$ 1.7 M
79-80	$ 1.4 M	$ 0.0	$ 4.6 M	$ 0.5 M	$ 0.5 M
80-81	$ 1.0 M	$ 0.2 M	$ 3.9 M	$ 0.5 M	$ 0.7 M
81-82	$ 3.0 M	$ 0.0	$ 4.8 M	$ 0.5 M	$ 0.5 M
82-83	$ 3.0 M	$ 0.0	$ 6.0 M	$ 0.1 M	$ 0.1 M
83-84	$ 3.0 M	$ 0.2 M*	$ 6.1 M	$ 0.1 M*	$ 0.3 M

* special bill

COMMISSION PROCEEDINGS

The State Parks Study Commission met seven times. Each meeting was arranged to study and consider the topics as charged in the authorizing legislation. The Commission thought it important to visit some parks and did, in fact, tour Mount Mitchell, Hanging Rock, and Pilot Mountain.

The first meeting of the State Parks Study Commission was held September 26, 1984, in Raleigh. At that meeting Secretary James A. Summers of the Department of Natural Resources and Community Development and other personnel from the Department presented an overview of the State Parks and Recreation Areas System in North Carolina.

October 14, 1984, was the date of the second meeting of the Study Commission, which was held in Asheville. The agenda covered staffing, salary needs, and river protection issues. The Commission also hiked the Horsepasture River in Transylvania County and toured Mount Mitchell State Park.

The third meeting, November 20, 1984, included tours of Hanging Rock State Park and Pilot Mountain State Park. The business meeting concerned capital improvements.

The Commission met December 7, 1984, regarding land acquisition and reservoirs in Raleigh.

The January 10, 1985, meeting in Raleigh covered many miscellaneous items, including Recreation Advisory Services, public awareness, trails, natural heritage areas, and supplemental revenue sources.

At the final two meetings, the Commission considered previously flagged items and adopted the final report.

Detailed minutes of each meeting are available in the Legislative Library.

RECOMMENDATIONS AND RATIONALE

Salary Recommendations for Parks Personnel:

1. The Commission recommends that the entry level pay for parks staff be increased to a decent, professional wage.

2. The Commission endorses the salary grade change of the Park Ranger I's from 56 to 58 to be funded from the Salary Adjustment Funds in the Office of the State Budget.

3. The Commission endorses and recommends the proposed salary range revision of parks personnel as outlined below:

Classification	Current Salary Grade	Proposed Salary Grade
Park Ranger I	56 $10,704-15,780	60 $12,708-18,852
Park Ranger II	58 $11,664-17,232	62 $13,872-20,664
Park Ranger III (Chief)	60 $12,708-18,852	64 $15,132-22,572
Park Superintendent I	64 $15,132-22,572	66 $16,464-24,756

Park Superintendent II	66	$16,464-24,756	68	$18,036-27,204
Park Superintendent III	68	$18,036-27,204	70	$19,716-29,940
Park Superintendent IV	70	$19,716-29,940	70	$19,716-29,940
District Superintendent	72	$21,612-32,916	73	$22,572-34,524
State Parks/Recreation Superintendent	74	$23,616-34,524	76	$25,980-39,816

TOTAL ESTIMATED COST: $147,149

(Employee benefits will raise this figure to $200,000)

Rationale:

One hundred dedicated state park employees and an administrative staff of five operate our state system of parks and recreation areas. They are responsible for the safety and recreation experiences of 5.7 million visitors annually. Such a limited staff is expected to keep our 41 state park and recreation areas open most of the daylight hours, 365 days a year.

Each ranger has, on the average, approximately one thousand acres to protect and manage with 50,000 visitors. Rangers are managing resources worth millions.

Rangers wear many hats--they act as law enforcement officers, firefighters, business managers, maintenance workers, public relations employees, administrative and executive officers, and naturalists. Presently, eleven out of the fifteen Park Ranger I's are college graduates.

Unfortunately, the lowly compensation makes some rangers with families eligible for the food stamp rolls and other public assistance programs.

It is essential that ranger compensation fairly reflect the level of expected responsibility and the public trust placed in rangers as the most direct steward of our natural sanctuary.

Staffing Recommendations:

1. The Commission recommends that all N.C. State Parks and Recreation Areas be operated with a minimum of three rangers and a half-time clerical employee year-round.
2. The Commission recommends that the General Assembly appropriate sufficient funds to employ a Trails Coordinator within the Division of Parks and Recreation.
3. The Commission recommends that the General Assembly appropriate sufficient funds to provide two staff positions for river protection in NRCD.
4. The Commission recommends that the General Assembly appropriate sufficient funds to employ two staff positions for natural heritage areas protection within NRCD.
5. The Commission endorses the proposals for additional staff submitted by NRCD and included in the budget request.

N.R.C.D. EXPANSION BUDGET REQUEST 1985-87
DIVISION OF PARKS AND RECREATION

		Positions Requested		
Division/Program	Type	1985-86	1986-87	1985-87
State Parks Field Operations	Full-time	10	8.5	18.5
Reservoirs Field Operations	Full-time	9.5	5	14.5
	TOTALS	19.5	13.5	33.0
State Parks Field Operations	Seasonal	4	1	5
Reservoirs Field Operations	Seasonal	17	0	17
	TOTALS	21	1	22
	TOTAL ESTIMATED COST:		$1.7 MILLION	

Rationale:

Parks personnel manage over 119,000 acres contained in our parks and recreation areas. The tremendous increase in visitation has resulted in understaffing and overcrowding of limited facilities. Many park rangers are regrettably becoming parking lot attendants.

The problems of staffing the state's parks and recreation areas are clear:

- o ten of the parks within the system have only two staff members on duty--and they are expected to keep the gates open seven days a week, year-round;
- o in some parks there are hours when there is no permanent staff on duty, during busy or slow seasons;
- o some of the state parks have realized almost their full potential of planned uses - offering everything from picnicking to boating to interpretive programs. Many of them, such as the 2,208-acre Jones Lake State Park, do so with only two Rangers on duty;
- o adherence to the normal 40-hour work week for park rangers leaves only 65 days a year when both will be on duty--and only 40 days a year when they would be able to conduct any park maintenance;
- o many of the park rangers by necessity handle office and clerical duties as well as patrol duties, because sufficient funds have not been available to hire full or part-time clerical personnel; and
- o the inability of park Rangers to patrol and protect some parks covering thousands of acres creates the ominous potential for poaching, vandalism and destruction of our natural resources.

Without adequate staff to act as the public's landlord, our natural resources and heritage areas cannot receive the caring and watchful eye they deserve.

Recommendations for Land Acquisition:

1. The Commission recommends the purchase of the 9,559 "critical" acres to protect the integrity of the North Carolina Parks System. The "critical" acres are those acres necessary to complete the purchase of the resource itself, inholdings, required access and buffer zones. For example, the State owns only half of Kings Pinnacle at Crowders Mountain State Park, half a lake at Carolina Beach State Park, and two-thirds of the lake shoreline at Merchant's Millpond State Park. (Estimated cost $23 million)

2. The Commission recommends the General Assembly adopt and fully fund the Plan for land acquisition proposed by the Division of Parks and Recreation under NRCD. (See Appendix D)

3. The Commission recommends the State acquire land adjacent to the Horsepasture River and establish a State Park.

4. The Commission endorses the efforts to complete the Mountains-to-Sea Trail. (Estimated cost of $3.8 million)

5. The Commission recommends the acquisition and protection of our Natural Heritage Areas. (Estimated cost of $160,000 per year for five years)

Rationale:

When Mount Mitchell was purchased in 1915 as the first state park, it set in motion a slow, steady process of state park land acquisition which has brought the system to today's 119,000 acres of park lands owned by North Carolina.

Park professionals during those intervening 69 years carefully set criteria for all the eventual state parks and recreation areas, establishing minimums for size and standards for operation. Today, our state parks range in size from 385 acres to 17,368 acres.

The early acquisition of land for state park purposes focused on the efforts to preserve a particular feature. More recent acquisitions were to protect natural boundaries of a particular park or recreation area. The Division acquires land systematically, tuning itself to long-established criteria--including the aim of placing a state park or recreation area within a 50-mile radius of all North Carolinians.

In the early years, growth in the parks and recreation system revolved around gifts and allocations of property by private citizens. Almost half of the acreage now in the system was acquired in that manner.

The environmental consciousness of the 1970's spelled boom years for the park system. The upward shift in recreation assets for the state can be attributed to:

- a widespread public awareness of parks and recreation area needs;
- careful planning by state park officials; and
- a major infusion of $19 million for park land acquisition in the decade of the 1970's. (Most of that effort centered on the 1973-75 biennium, when $17 million was invested by the state for land in its park and recreation area system.)

The 1977-79 State Parks Study Commission recommended increases in fiscal commitment to the State Park and Recreation Area System, calling for the state to add 13,558 acres of lands deemed "critical" to the full protection and use of its sites administered by the Division.

But the pattern of land acquisition has shifted dramatically in the past five years. Growth in the size of the state park system has reverted to its pre-1970's history of acquisition funding and "hoped for" reliance on gifts of land.

A slow-down in state acquisition funding since 1979 and the growing difficulties in obtaining gifts of land leaves 9,579 acres yet to be acquired--just to meet goals set five years ago and expected to be achieved by 1984. It would take $9 million per year for the next five years just to catch up to those 1979 goals.

Recommendations for Capital Improvements:

1. The Commission recommends that the General Assembly adopt and fully fund the Six-Year Plan for capital development and improvement proposed by the Division of Parks and Recreation under NRCD. (Estimated cost of $43 million) (See Appendix E)

2. The Commission endorses and recommends the priorities as outlined by NRCD for capital development.

3. The Commission endorses and recommends the Master Planning System and recommends updating of all Master Plans where appropriate.

Rationale:

The capital development effort of the Division is to have adequate facilities to ensure that our parks and recreation areas offer the best recreation opportunities for the public, now and for the forseeable future.

Attendance at the parks reached 5.7 million in 1983/84. If full use is made of existing parks and recreation areas, the system will grow to be able to accommodate 12 million visitors by the year 2000. Trends indicate the visitation rate to our state parks and recreations areas is growing six times faster than is the population of the state.

Most of the major park sites within our system have Master Plans, and each was designed with "total phase development" in mind. But all of the plans are at least five years old, and all need to be updated. Yet, recent cut-backs in state personnel leave that work begging because not enough professional park planners are on hand to do the job.

Historically, the capital development efforts for our state parks and recreation areas have focused on small scale units at each site. Development guidelines call for each state park and recreation area to have, as a bare minimum, access, parking areas, safe drinking water, sanitary facilities, employee housing, and maintenance buildings. Few of the existing 41 state park and recreation areas can boast today that they have all of these "bare essentials".

Small scale developments reflect the need to "shuffle" priorities, always in favor of park visitors. It has created some notable conflicts:

- new use facilities, but no operations or maintenance facilities;

- parks limited to day-use or overnight use only, but rarely both;
- ample supplies and materials in some areas, but no warehouse to store them;
- a verifiable need for park staff additions, but no quarters to house them; and
- plenty of visitors to our state parks and recreation areas, but only scattered education programs, visitor centers, or even park brochures.

The renovation and rehabilitation of existing facilities in our state recreation system is becoming a major concern to the using public, as well as to state park professionals in the Division. Most repairs have simply been on a "brush fire" basis for several years. Our park officials now deal with facilities built in the pre-World War II years by the Civilian Conservation Corps. Many are approaching their fiftieth birthday, relatively unchanged since original construction and carefully patched up. Entire electric, water or sewer systems in some of these aging facilities are having to be replaced.

It would take $43 million in the next five years to fully outfit and complete the facilities needed and anticipated at the state park and recreation areas in North Carolina.

The problems of understaffing and funds to properly maintain the facilities affects the state recreation areas, as well as state parks. Federal funds were used to acquire land for major state recreation areas such as Jordan Lake and Kerr Lake. While the U.S. Corps of Engineers funds cost of land and recreation areas, it is up to the State to administer the resource.

In the case of Falls Lake, the recreation area was developed on a 50-50 matching fund basis for land for specific recreation purposes and for initial recreation facilities between the Corps and the State. Because State funding for park operations has dwindled in recent years, many of those federal dollars waiting to be matched were simply turned back and spent elsewhere.

Current Division land responsibilities at Kerr Lake include 3,500 acres at nine sites. By 1988, the Division will have responsibility to manage 3,999 acres at Falls Lake in seven sites and 2,200 acres at Jordan Lake located at seven sites.

The density of development at all three of these lakes is substantially higher than at State parks across the system. The Division only takes over highly developed areas as they are completed by the Corps. This leaves the undeveloped remainder of project lands for the Wildlife Division to administer. Therefore, substantially more manpower and operation funds are needed for these areas.

What is needed to keep our State parks and recreations areas safe and in a useful condition for the millions who visit each year does not match the resources on hand to do just that. New fiscal resources must be thrown into the battle or alternative funding sources found. Otherwise, deterioration will continue.

Other Areas for Consideration:

1. The Commission finds and endorses that the "Parks Principles" continue to be used as the guidepost for our Parks and Recreation System.

2. The Commission recommends that NRCD develop policy with local government units to protect parks within their respective locales, especially buffer zoning and compatible development.

3. The Commission recommends the purchase of two-way radios for each park and recreation area as a step towards minimum communication within each area. (Estimated cost of $52,650)

4. The Commission recommends the purchase of telephone answering equipment at each park and recreation area. (Estimated cost of $100 at each of the 28 areas)

5. The Commission supports and recommends the creation of a State-funded Land and Water Conservation Fund.

6. The Commission commends all volunteer efforts, both individual and organizational, and encourages the establishment of "park watch" or adopt-a-park" groups.

7. The Commission reiterates support for public access to public waters and encourages the Secretaries of NRCD and Transportation to meet regularly to review this issue.

8. The Commission recognizes the difficulty of long-term funding for our parks and recreation system and sees the need for other revenue sources besides appropriations. The Commission proposes the following as a financing alternative:

   The Commission recommends that the General Assembly submit to the people of North Carolina a bond referendum for land acquisition for our State Parks up to $50 million. Three objectives are also endorsed as part of the bond referendum:

   a. That the first acquisitions constitute the "critical acres."

   b. That subsequent acres be purchased in accordance with the NRCD and legislatively-endorsed goal of one state park within a 50 mile radius of each citizen in North Carolina.

   c. That all purchases be planned and completed consistent with the "Park Principles."

9. The Commission recommends inclusion of the Horsepasture River into the North Carolina Natural and Scenic Rivers System.

10. The Commission endorses the concept of federal legislation to give states complete control over small hydroelectric projects.

11. The Commission recommends that NRCD develop policy on temporary and permanent leasing to private vendors and concessionaires.

12. The Commission recommends the enactment of legislation establishing a permanent dedication procedure for owners of natural heritage areas.

13. The Commission recommends that no entrance fees to the State Parks be charged.

14. The Commission recommends that NRCD continue its present policy on user fees and also that NRCD annually evaluate user fees to keep them in line with market conditions.

15. The Commission recommends the enactment of all proposed legislation attached in the appendices:

    A BILL TO BE ENTITLED AN ACT TO DESIGNATE A RIVER A POTENTIAL COMPONENT OF THE NATURAL AND SCENIC RIVERS SYSTEM AND TO PROTECT AGAINST DIRECT AND ADVERSE DEVELOPMENT

    A BILL TO BE ENTITLED AN ACT TO PROVIDE FOR THE REGISTRATION AND DEDICATION OF NATURAL AREAS

    A BILL TO BE ENTITLED AN ACT TO DESIGNATE THE HORSEPASTURE RIVER A SCENIC RIVER UNDER THE NATURAL AND SCENIC RIVERS SYSTEM

    A BILL TO BE ENTITLED AN ACT TO PROVIDE FOR THE PURCHASE OF TWO-WAY RADIOS AND TELEPHONE ANSWERING EQUIPMENT FOR THE STATE PARK AND RECREATION AREAS

    A BILL TO BE ENTITLED AN ACT TO PROVIDE FOR CAPITAL IMPROVEMENT PROJECTS AT VARIOUS STATE PARK AND RECREATION AREAS

    A BILL TO BE ENTITLED AN ACT AUTHORIZING THE ISSUANCE OF STATE PARK BONDS, IF APPROVED BY THE VOTERS IN A REFERENDUM ON THE ISSUE

    A BILL TO BE ENTITLED AN ACT TO CREATE A COMMISSION ON STATE PARK AND RECREATION AREAS

16. The Commission recommends continuation of the State Parks Study Commission.

SUBCOMMITTEE RECESS

Senator JOHNSTON. If there are no further witnesses, then we stand in recess until 10 a.m. tomorrow.

[Whereupon, at 3:10 p.m. Monday, April 14, the subcommittee was recessed to reconvene at 10 a.m. April 15, 1986.]

ENERGY AND WATER DEVELOPMENT APPROPRIATIONS FOR FISCAL YEAR 1987

TUESDAY, APRIL 15, 1986

U.S. SENATE,
SUBCOMMITTEE OF THE COMMITTEE ON APPROPRIATIONS,
Washington, DC.

The subcommittee met at 10:05 a.m. in room SD–192, Dirksen Senate Office Building, Hon. Jake Garn presiding.

Present: Senators Garn, Cochran, Domenici, Stennis, and DeConcini. Also present: Senators Long, Bumpers, and Pryor.

NONDEPARTMENTAL WITNESSES

OPENING REMARKS

Senator GARN. The subcommittee will come to order.

In the absence of the chairman of the subcommittee, Senator Hatfield, I have been asked to start the hearing this morning. I think all of you are aware that we all have a number of commitments, in fact, I left a Banking Committee hearing to come down to this one.

Senator Hatfield certainly expresses his regrets that that he cannot be here. However, on behalf of the chairman, I would like to welcome each of you here today.

There are large number of witnesses that wish to be heard. Therefore, in accordance with our notification to each of the witnesses, it will take some self-restraint on everyone's part to hold oral testimony to a minimum in order that all of you that have requested an opportunity to testify may be heard.

So, in keeping with the subcommittee wishes, I would ask that the detailed prepared statements that each of you worked out very carefully be submitted for the record, printed in full, and that will provide a record for the subcommittee to study in determining its judgments and recommendations for the upcoming year. Also, in this way, we will have a carefully detailed record, so that anyone who is not present will be able to arrive at an independent judgment. Then if each witness will summarize or highlight the important points of his oral testimony, it would be very helpful.

We are happy to have here today as our first witness, Mr. Robert Hilbert, chairman of the board of directors, Central Utah Conservancy District.

Bob, why don't you and the others sit down at the witness table.

CENTRAL UTAH PROJECT

STATEMENT OF ROBERT HILBERT, CHAIRMAN OF THE BOARD OF DIRECTORS, CENTRAL UTAH CONSERVANCY DISTRICT

ACCOMPANIED BY:
ROSCOE GARRETT, VICE PRESIDENT AND CHAIRMAN OF THE BOARD
CHARLES CROZIER
GERALD K. MALONEY
J. NEIL NIELSON
CHARLES W. WILSON
DON A. CHRISTIANSEN, GENERAL MANAGER OF THE DISTRICT

Mr. HILBERT. Thank you, Mr. Chairman, and good morning.

I would like to have the other members of our group join us here at the table.

Senator GARN. If you would like to introduce them for the subcommittee and for purposes of the record, I would be happy to have you do that at this time.

Mr. HILBERT. I shall, Mr. Chairman, and for the record, we have submitted our complete testimony, and we will highlight this morning in the interests of time.

Mr. Chairman, I am Robert B. Hilbert, chairman of the board for the Central Utah Water Conservancy District, and with me this morning are members of our executive committee.

I have Mr. Roscoe Garrett, who is vice president and chairman of the board; Mr. Charlie Crozier; Charlie Wilson; Gerald K. Maloney; and J. Neil Nielson, also representing the Central Utah Water Conservancy District. With me also we have Don Christiansen, who is general manager of the Central Utah Water Conservancy District.

Senator GARN. Mr. Hilbert, before you start, I appreciate all of you being here today. Obviously, I do have some parochial interest in this particular project. For the benefit of the subcommittee, this started a long, long time ago. As I look at all of you, I have known most of you for many years; have worked with many of you on water matters and water projects. As I see Charlie Wilson sitting there, I still remember 19 years ago when I was elected to the Salt Lake City Commission and was assigned to be water commissioner of Salt Lake City. Poor Charlie was superintendent of the Salt Lake City Water Department and he had spent his entire life working for the Salt Lake City Water Department. So, I still can imagine what he must have thought—with all this background and all this experience, probably knowing more about water than all of the rest of us put together at that time, and here he had a new 34-year-old water commissioner who, all that I knew about water was that you turned the tap on and water came out of it. That was the vast extent of my experience and knowledge, and he thought, here, I have got another commissioner to train.

So fortunately, I was smart enough to let him run the water department and teach me. So it was a very close personal relationship we developed over the years. Charlie still knows so much more about water, he has forgotten far more than I ever learned.

Each of you; Bob, I had the opportunity to work with you when I wasn't water commissioner, the mayor of Salt Lake City, and others of you on the board, and I think it illustrates the importance of water to our State. When I first came here, I did not anticipate the Central Utah Project would be an annual issue, continuously, all year long every year; working, trying to convince Members here in Congress how badly water is needed in a State that is dry and as arid as Utah.

I suppose the best illustration of that—I will never forget when President Carter put the Central Utah Project on the hit list along with a lot of other projects, and we went down to the White House to talk to the President about it, and everybody had their say.

Senator Barry Goldwater was there, and finally, President Carter turned to him and said, "Senator Goldwater, isn't there something you would like to say about this?"

He said, "Yes, Mr. President, there is. I can sum up the position of the Western States—there are three things we value in the West: we value our women; we value gold, and we value water. You can fiddle around with our women and our gold, but damned, you don't touch our water." [Laughter.]

That was the extent of Senator Goldwater's speech, and I think President Carter understood exactly what he was saying, and the Central Utah Project and others came off the hit list.

I appreciate all of you being here and the opportunity I have had to work with you over the years in various capacities.

PREPARED STATEMENTS

Before you proceed, I have statements from Senator Hatch and the Governor of the State of Utah, Governor Bangerter, that I want to include in the record at this point.

Please proceed.

[The statements follow:]

Statement of Senator Hatch of Utah

Mr. Chairman, I appreciate the opportunity to testify in support of continued funding for the Central Utah Project.

This project is a remarkably farsighted and ingenious undertaking which has been supported in the State of Utah for more than 20 years.

Last fall, in a special election held solely for the purpose of ratifying a supplemental repayment contract, voters in Utah reaffirmed their support for this project by a 3-to-1 margin. This contract requires an additional $335 million repayment to the Government from water users within the conservancy district over the life of the project. The voters' willingness to assume this financial obligation clearly indicates that water continues to be of vital concern to Utahns. I believe the overwhelming margin by which the contract was adopted reaffirms what the State's elected officials have represented to this committee year after year; namely, that this project is both valuable and necessary in meeting the State's continued water demands.

Mr. Chairman, as you know, last year, when the fiscal year 1986 appropriations for this project were made, an amendment was added to the bill on the House floor and accepted by the Senate, which deferred funding until the supplemental repayment contract had been voted upon and approved by Utah voters and the Congress had reviewed the contract for 100 days. This was done to ensure that construction would not continue above and beyond the State's willingness to repay appropriate costs. This contract has now been approved; it has undergone a 100-day review period in both houses of Congress. I would hope, Mr. Chairman, that we can now get on with this project. Additional funding delays can only lead to one thing—increased costs. Experience has taught us this fact well. Some have made much of the fact that the costs of this project have increased dramatically over the past 20 years; however, it is important to look to the cause for such cost increases. Had the project been built on time and funded on a timely basis, the Government would be receiving reimbursement from its beneficiaries today.

The Central Utah Water Conservancy District recently completed a detailed construction schedule which, if funded, will complete the project within the next 10 years.

Mr. Chairman, the endorsement of the President's budget figures for fiscal year 1987 will bring us one-tenth of the way closer to its completion. Every major city located in the Colorado River basin has had to construct a major water project in order to receive its share of the Colorado River: Los Angeles, San Diego, Phoenix, Las Vegas, and, of course, Salt Lake City. The need for water storage is not unique to Westerners, but it is a need which some others continue to find unique.

The people of Utah have put their money on the table. I hope that Congress will not let them down.

STATEMENT OF GOV. NORMAN H. BANGERTER OF UTAH

I am honored as Utah's Governor to represent Utah and its citizens in support of the President's fiscal year 1987 budget recommendation to the Congress of the United States for the Central Utah Project.

The people of Utah are totally in support of the CUP. They have demonstrated that support in a strong and definite manner by approving the supplemental repayment contract to pay their share of the project's cost. On November 19 of last year the people of the 12 most populous counties directly affected by the CUP voted 3 to 1 to support the continued construction of the project. The largest turnout in Utah for a special election of this kind was recorded. The citizens of the State voiced their support for a construction plan that has been ongoing for the past 20 years. This overwhelming support for the timely completion of the CUP is a clear indicator that the need for the project, as well as the desires of the people of the State of Utah, are drastically important.

Current and potential benefits from the project range from municipal and industrial water to agriculture. In between are myriads of spinoffs such as wildlife, recreation, and flood control. The Central Utah Project is the only major project for which Utah is currently receiving Federal funding. The State has solicited this assistance in the firm belief that the CUP benefits not only Utah, but the region and the Nation as a whole.

Utah's economic growth is very healthy, but a healthy outlook for Utah's future industrial and resource growth, along with its increasing population, can be determined largely by development of the State's limited water supplies. The planned delivery of water by the Central Utah Water Conservancy District to the State's largest populated area, the Wasatch front, has become an increasingly critical matter. City and county water officials caution that planning for this population explosion can only proceed based on the assumption that project water will be available in the next few years.

Tourism is one of the leading industries in the State of Utah and has created enormous demands for recreation in our State. This demand is expected to continue over the next 20 years, and without the development of our reservoirs and water supplies that center around the CUP, our tourism industry could suffer greatly. Therefore, I totally support President Reagan's 1987 fiscal year recommendation of $88,788,000 for continued construction toward completion of the Central Utah Project. The President's funding request is as follows:

Unit	*Amount*
Section 5 (reimbursable):	
Bonneville	$83,793,000
Upalco unit	50,000
Jensen unit	303,000
Uintah unit	100,000
Subtotal	84,246,000
Section 8 (nonreimbursable): Fish, wildlife, and recreation—Bonneville unit	4,542,000
Total fiscal 1987 budget recommendation	88,788,000

The Central Utah Water Conservancy District, sponsor of the Central Utah Project for the State, through its board of directors, has invested approximately $30 million to construct facilities in anticipation of completion of the units of the CUP. In this effort, the district has shown strong support of the Government's cost-sharing formulas and has been willing to up-front portions of the CUP construction.

The State of Utah has committed millions of dollars over the past years for bonding programs to develop its water resources, but even with this type of commitment, it is not capable on its own to do all that must be done to develop our water resources without Federal help.

As a participating project under the Colorado River Storage Act passed by Congress in 1956, the State has appreciated the support that Congress has given in the development and construction of the CUP. This project has been the heart of our State water plan. The State water plan notes that the potential need for water greatly exceeds the water supply. At the present time, large quantities of water are not being fully utilized due to the lack of reservoir capacity to store and regulate these waters. With the completion of the CUP, facilities will be in place to accommodate water storage and provide the central conveyance systems that are necessary.

The State's water efforts are directed in other areas aside from impounding water supplies. The State is working not only toward reclamation but conservation in utilizing many methods of development. The State provides financial encouragement for conservation practices leading to efficient irrigation. Wise use of ground water is being considered by municipal and industrial systems, as well as agriculture.

I support the Colorado River Basin Water Quality Improvement Program which insures the commitment that the States and the Federal Government have made to maintain the quality of the Colorado River. We are mindful of the increased salinity that is created for downstream users and, therefore, commit our support to this project.

In conclusion, I want you to know that Utahn's appreciate your support of the Central Utah Project and encourage your continuing endorsement to fund the project to its completion.

1987 FUNDING REQUEST

Senator GARN. Please proceed.

Mr. HILBERT. Thank you, Mr. Chairman, for those kind remarks.

Mr. Chairman, we are here today to voice support for the continued funding of the Central Utah Project. The district, by the attached resolution, concurs in and supports the President's fiscal year 1987 budget recommendations to the Congress of the United States.

As you know, the Bureau of Reclamation has requested $84,246,000 for the Central Utah Project. Of that amount, $83.8 million has been requested for the Bonneville unit. These funds will be used to continue work on several ongoing projects, namely, the stillwater dams, Jordanelle Dam and Powerplant.

The Bureau also plans to award a contract for the relocation of U.S. Highways 40 and 189 to accommodate construction of the Jordanelle Dam.

NEW REPAYMENT CONTRACT

On November 19, 1985, the voters of the State of Utah approved a new supplemental repayment contract for the Central Utah Project. Seventy-three percent of the voters in the 12-county Central Utah Water Conservancy District area voted approval for this contract, which was signed by the district and the Bureau of Reclamation on November 25, 1985, and was submitted to Congress for the requisite 100-day review period on December 12, 1985.

That 100-day review period ended March 21, and those funds embargoed by the small amendment are now released for the Bureau to proceed with the awarding or bidding and awarding of various contracts for the removal of utilities in the Jordanelle Dam construction area.

The new supplemental repayment contract increased the repayment obligation of the Central Utah Water Conservancy District by $368 million. This increase will provide funds to complete construction of the project and pay for Utah's share of the Jordanelle dam and reservoir, as well as provide for the payment of the Strawberry Aqueduct and collections system. These funds will also pay for facilities to bring the Central Utah Project water from the Strawberry Reservoir to the Bonneville and Sevier River basins.

Mr. Chairman, the new supplemental repayment contract clearly reflects the mandate of the Congress in the fiscal year 1986 Energy and Water Development Appropriations Act in that it provides complete contract coverage for the district's municipal and industrial obligation.

Specifically, the supplemental repayment contract obligates the district to repay to the Federal Government "the reimbursable costs properly allocated under Federal reclamation law to municipal and industrial water use for construction of the project."

This project has been under construction for over 20 years, with hundreds of millions of dollars being invested. Working with the Bureau of Reclamation, our district has developed a plan that will complete the project by 1995, provided that adequate funding is appropriated by the Congress.

At this point, it is imperative that we avoid further delays in the completion of the project. Every year the project is delayed beyond the 1995 completion date, at least another $20 million in overhead, alone, will be added to project costs.

The project can be completed by 1995 if the Congress will continue appropriations at the level suggested by the Bureau of Reclamation in their budget submissions.

In conclusion, Mr. Chairman, all of us who are associated with the Central Utah Project wish to thank you for the support which you have given this project over the years. We look forward to working with you in the future to ensure a timely completion of the Central Utah Project, and we wish to thank you in advance for all of those efforts in the past and in the future.

[The statement follows:]

STATEMENT OF THE CENTRAL UTAH WATER CONSERVANCY DISTRICT

I am Robert B. Hilbert, Chairman of the Board for the Central Utah Water Conservancy District, which serves as the legal agency to assist in the development of water resources in 12 Utah counties. Mr. Chairman, thank you for the opportunity to testify today on behalf of the Central Utah Water Conservancy District. Accompanying me today are the Executive Committee members of the Conservancy District Board:

R. Roscoe Garrett, Vice President
Charles Crozier
Gerald K. Maloney
J. Neil Nielson
Charles W. Wilson

Also accompanying us is Don A. Christiansen, General Manager of the District.

Mr. Chairman, we are here today to voice support for the continued funding of the Central Utah Project. The District, by the attached resolution, (Exhibit A) concurs in and supports the President's fiscal year 1987 budget recommendation to the Congress of the United States. As you know, the Bureau of Reclamation has requested $84,246,000 for the Central Utah Project. Of that amount $83.8 million has been requested for the Bonneville Unit. These funds will be used to continue work on Doc's Diversion Dam and Feeder Pipeline, Rhodes Diversion Dam and Win Stream Inlet, Upper Stillwater Dam and Reservoir, Jordanelle Dam and Powerplant, and Duchesne River Area Canal system. The Bureau also plans to award contracts for the relocation of U.S. Highway 40 and 189 at the Jordanelle Reservoir, Alpine Aqueduct Reach Two, and the Syar Tunnel Access Road.

While the funds requested for Fiscal Year 1987 represent an increase of some $22 million over the Fiscal Year 1986 appropriation for the Bonneville Unit, it must be remembered that the Energy and Water Development Appropriations Act of 1986 (P.L. 99-141) contains language that prohibited the expenditure of further funds for the construction of the Bonneville Unit until "a Supplemental Repayment Contract for Municipal and Industrial water supply, sufficient to recover all allocable reimbursable costs plus interest has been executed . . . and such contract has been submitted tot he Congress and one hundred days have elapsed." This language prevented any new construction contracts being awarded on the Bonneville Unit until March 21, 1986.

On November 19, 1985 the voters of the State of Utah approved a new Supplemental Repayment Contract (Exhibit B) for CUP. 73% of the voters in the 12 county Central Utah Water Conservancy District favored approval of this contract which was signed by the District and Bureau of Reclamation on November 25, 1985 and submitted to the Congress for the requisite 100 day review period on December 12, 1985.

The new Supplemental Repayment Contract increased the repayment obligation of the Central Utah Water Conservancy District by $368 million. This increase will provide funds to complete construction of the project and pay for Utah's fair share of the Jordanelle Dam and Reservoir as well as to provide for payment of the Strawberry Aqueduct and collections system. These funds will also pay for facilities to bring Central Utah Project water from the Strawberry Reservoir to the Bonneville and Sevier River Basins.

With the approval of this Supplemental Repayment Contract, the repayment plan for the Bonneville Unit now includes four major components:

* The original 1965 repayment contract with a ceiling of $140.4 million;

* The 1985 Supplemental Contract, with a ceiling of $335 million, plus a 10% adjustment for contingencies;

* A $10 million up front contribution from the Central Utah Water Conservancy District; and

* Two separate repayment contracts with the Salt Lake County Water Conservancy District and the Metropolitan Water District of Salt Lake City for the repayment of $42 million of costs associated with the Jordanelle Aqueduct.

Mr. Chairman, the new Supplemental Repayment Contract clearly reflects the mandate of the Congress in the Fiscal Year 1986 Energy and Water development Appropriations Act that it provides complete contract coverage for the District's Municipal and Industrial obligation. Specifically, the Supplemental Repayment Contract obligates the District to repay to the Federal Government "the reimbursable cost, properly allocated under federal reclamation law to municipal and industrial water use for construction of the project."

As you are no doubt aware, the House Committee on Interior and Insular Affairs Subcommittee on Water and Power Resources recently held an oversight hearing on the repayment arrangement on the Bonneville Unit. We believe that the testimony provided by the Department of the Interior as well as our District demonstrated that adequate contract coverage now exists for the anticipated reimbursable cost of building the Bonneville Unit. During this hearing, the Subcommittee received testimony from the General Accounting Office in which the GAO criticized the Bureau of Reclamation's use of the Water Supply Act of 1958 to defer costs associated with future water supplies. However, as was pointed out at the hearing, the use of the Water Supply Act was always envisioned for repayment of the Bonneville Unit M & I component. The original 1965 Repayment Contract specifically recognized that the Water Supply Act could be used, in accordance with its terms, to defer costs under the 1965 contract since it was known at that time that not all of the M & I water would be needed at the initiation of water deliveries.

While we strongly believe that the use of the Water Supply Act was both legal and proper, we also believe that the adoption of the Supplemental Repayment Contract has rendered the entire Water Supply Act issue moot. The Supplemental Repayment Contract, in concert with the other repayment arrangements and the up-front contributions made by the District is more than adequate to cover the cost allocated to M & I Water Supply.

Mr. Chairman, the time has come to move ahead and complete the construction of the Bonneville Unit. This project has been under construction for 20 years with hundreds of millions of dollars being invested. Working with the Department of the Interior, our District has developed a plan that will complete the project by 1995 -- provided that adequate funding is appropriated by the Congress. At this point, it is imperative that we avoid further delays in completion of the project. For every year that the project is delayed beyond the 1995 completion date, at least another $20 million in overhead alone will be added to the project's costs. The project can be completed by 1995 if the Congress will continue appropriations at the level suggested by the Bureau in their budget submissions.

In conclusion, Mr. Chairman, all of us who are associated with the Central Utah Project wish to thank you of the support which you have given to this project over the years. We look forward to working with you in the near future to ensure the timely completion of the Central Utah Project and we wish to thank you in advance for your continued support.

RESOLUTION

WHEREAS, the President's Fiscal Year 1987 Budget Recommendations to the Congress of the United States included the following request for new funds for the Units of the Central Utah Project:

Unit	Amount
Section 5 (Reimbursable)	
Bonneville Unit	$83,793,000
Upalco Unit	50,000
Jensen Unit	303,000
Uintah Unit	100,000
	$84,246,000
Section 8 (Non Reimbursable)	
Fish, Wildlife & Recreation Bonneville Unit	$ 4,542,000
Total Fiscal 1987 Budget Recommendation	$88,788,000

WHEREAS, these funds provide for an adequate construction and preconstruction program for the Units of the Central Utah Project, and

WHEREAS, the project can be completed by 1995 if Congress will continue appropriations at the level suggested by the Bureau in their budget submissions.

NOW, THEREFORE BE IT RESOLVED, that the Central Utah Water Conservancy District does hereby concur with the recommendations included in the President's Budget and encourages Congress to appropriate the necessary funds, and

BE IT FURTHER RESOLVED, that the Board of Directors of the Central Utah Water Conservancy District encourages all agencies involved in the construction of the project to work diligently to implement the plan jointly developed by this District and Bureau of Reclamation that will complete the project expeditiously, and

BE IT FURTHER RESOLVED, that the Directors of the District request the Governor of the State of Utah and Utah's Congressional Delegation to support and encourage Congress to appropriate the funds as included in the President's Budget, and

BE IT FURTHER RESOLVED, that copies of this Resolution be transmitted to the President, Secretary of Interior, Commissioner of the Bureau of Reclamation, Utah's Governor, Utah's Congressional Delegation, and other interested parties.

CERTIFICATE

I certify that the foregoing is a true and accurate copy of a resolution adopted by the Board of Directors of the Central Utah Water Conservancy District on April 10, 1986.

Don A. Christiansen
Secretary

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------------------------------ELECTION RESULTS--------------------------------
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                                         TOTAL     DISTRICTS           PERCENT
  COUNTY          FOR       AGAINST    DISTRICTS   REPORTED            REPORTED

Duchesne         1015          941          7          7                100
Garfield          212          174          4          4                100
Juab              882          129          5          5                100
Millard          1466          401         16         16                100
Piute             216           74          5          5                100
Salt Lake       42480        13812        176        176                100
Sanpete          1611          500         16         16                100
Sevier           1349          773         17         17                100
Summit             95           54          1          1                100
Uintah            658         1542          8          8                100
Utah            16498         6020         43         43                100
Wasatch           853         1090          8          8                100

**Total**       67835        25580        306        306                100

Time: 09:52:41
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Percentage of People Who Voted 19%

Total Number of Districts 307

Districts Against 17

Breakdown of Districts Against

Utah
203 (1 District)

Duchesne
222
223 (3 Districts)
224

Garfield
203 (1 District)

Uintah
291
292
293
294 (8 Districts)
295
296
297
298

Wasatch
299
300 (4 Districts)
301
303

LEVEL OF LOCAL PROJECT SUPPORT

Senator GARN. Thank you, Mr. Hilbert.

I think it is important to note, in spite of the critics of this project and the very highly visible and organized campaign against the election last November, it is important that my colleagues on the subcommittee understand that we were not able to hold that election during a regular election cycle. It was necessary to hold it a couple of weeks after the normal municipal elections last fall, which, undoubtedly, there would have been more people turn out.

Yet, I was very surprised that the turnout for a special election for one issue on a day when there was a very, very heavy snowfall, one of the biggest snowstorms in the history of the State that early in the year, and then to have 73 percent of the people vote to tax themselves to provide another $368 million repayment, I think, is highly remarkable, and the Congress should be aware of that when they talk about it.

Is there local support for this project? I don't know how we can prove it any more than that kind of a situation under adverse election situations, and 73 percent of the people, in that climate today, which is against additional taxation and against additional spending, I would hope that would indicate, particularly to the House of Representatives, that the people of Utah are willing to pay their fair share for the project.

I would also note for the record that this has never been a partisan issue at all. Every Senator, every Congressman of both political parties, and Governors over the last 20 years have unanimously supported this project without reservations. That is also highly unusual. Normally, in most States, you can at least find one or two mavericks that will oppose this type of project. It makes them look good with the opposition. But there simply has been no opposition, regardless of political party, in the Utah delegation for an entire 20-year period.

I think it is also important to note that although there are obviously some problems that have caused cost increases, that if we could do it over again in hindsight, we would do differently, but nevertheless, the major reason for the cost overruns in this project and even the necessity for the special election in the repayment contract is simply delay—the unwillingness of Congress over the years to fund the project at a proper level where it should have been completed.

The Jordanelle unit we talk so much about was originally scheduled for completion in 1972, 14 years ago. If we had proceeded on that original construction schedule, we would not be here today; the project would be finished a long time ago.

So we intend to continue to press forward. I did want to make special note of your testimony of this special election and the support of our constituents for this project. I also wanted to mention the need for water in Utah so we have an opportunity to grow, which we expect will occur.

I appreciate very much all of you coming today, and we will press forward and see that this project is adequately funded.

Mr. HILBERT. Thank you, Mr. Chairman. We appreciate your very kind remarks.

Senator GARN. Thank you.

At this point, I am going to turn the chair over to the distinguished Senator from Arizona, my friend and colleague, Senator DeConcini.

PREPARED STATEMENT OF GOVERNOR HERSCHLER OF WYOMING

But before I do that, I want to make part of the record a statement the subcommittee has received from Governor Herschler of Wyoming.

[The statement follows:]

STATEMENT OF GOV. ED HERSCHLER OF WYOMING

Mr. Chairman and members of the committee, the functions and activities of the U.S. Bureau of Reclamation related to water development and its utilization within the State of Wyoming and in the Western United States continue to be of vital interest to the people of this State. I know that this same interest is shared by the citizens of the other Western States. Energy and industrial development, with their associated population growth, continues to grow more important to the State's people, but with that development comes an ever-increasing demand on our limited water resources, and, consequently, greater concern about water resources development. Continued development of our water resources is of prime importance to the people of this State and of this Nation if we are to meet our country's escalating energy and water demands.

Water development has been, and continues to be, a high-priority issue in the arid West and within the State of Wyoming. The Wyoming Legislature's ardent commitment to water resource development led to adoption of my comprehensive water development program in 1982 and the concurrent selection of 29 projects for study and possible construction. Since then, some 25 projects have been authorized for construction including 3 new reservoirs and 2 reservoir enlargements, with the remainder being rehabilitation projects. At this time our water development commission has a total of 60 projects under some level of consideration or under construction in its new development and rehabilitation programs.

I am pleased to repeat to this committee, as I have for the past several years, that I am most encouraged by the level of funding proposed for additional preconstruction and the ongoing construction activities on the Buffalo Bill Dam modification project. We look ahead with great anticipation to the awarding of contracts for modification of the dam and spillway. The suggested appropriation will allow this long-sought-after modification to continue to proceed toward a timely completion.

The Jackson Lake Dam safety of dams modification is progressing well and we are pleased that the proposed appropriation will keep this extensive project on track to a timely completion.

The State of Wyoming fully supports the suggested appropriation to remedy the worsening seepage and settlement problems at the Fontenelle Dam. We regard the repair of Fontenelle Dam to be vitally important to the proper operation of the Colorado River storage project reservoir system and urge that correction of the seepage and settlement problems be accomplished with dispatch.

As concerns the proposed fiscal year 1987 appropriation for the Bureau of Reclamation within the Upper Colorado River basin, I wish to convey the State of Wyoming's support for at least, if not more than, the suggested level of funding for further construction on and operation of the Colorado River storage project and the participating projects. The ability of the States which are party to the Upper Colorado River Basin Compact to make full use of their shares of the waters of the Colorado River is closely intertwined with the water resources development envisioned within the Colorado River Storage Project Act. Through these appropriations, water resource projects and programs within the Upper Colorado basin can be funded at a level which will benefit the local, regional, and national economics.

We would advocate that funding be continued under the construction program of the Bureau of Reclamation for safety of dams and irrigation system rehabilitation activities. The cost of these programs in comparison to the large investments in project works made in the past by the Federal Government, irrigators, and other water users are not out of line to protect those past investments and ensure their continued usefulness. Federal dollars spent in these programs also bolster Wyoming's agricultural and numerous ag-related sectors.

Investment protection also necessitates the Bureau of Reclamation's operation and maintenance program. Due to the paramount importance of irrigated agriculture to the economies of this State and our Nation, and to our continued welfare, it is crucial that project works be kept up and maintained so that their reliability is assured.

General investigations conducted by the Bureau of Reclamation are in many cases a prime source of water resources information and will be of greater importance in the future as water and power demands continue to escalate. The pressures of increased demand are beginning to be felt even in those river basins with the most abundant supplies, bringing home the need for current and detailed information from which to draw on to make appropriate planning and policy decisions.

The State of Wyoming affirms its support for the reclamation program of the Bureau of Reclamation and for such levels of funding as will keep its programs and investigtions in step with the demands made of them. The benefits which have accrued to the Nation since the inception of reclamation far outweigh the costs incurred by the Federal Government and the States.

Thank you, Mr. Chairman and committee members, for the opportunity to present this statement for your consideration and for its inclusion into the official record.

CENTRAL ARIZONA PROJECT

Senator DECONCINI [presiding]. Chairman Garn, thank you very much. I was glad to hear a little bit of the testimony from your outstanding water folks in Utah. Indeed, they are like ours in Arizona, prepared to put up their fair share, which is a whole different ballgame than you and I started some years ago on water projects. It is something that our States are so much alike. My compliments to that leadership in your State.

Thank you, Chairman Garn. I want to welcome former Congressman John Rhodes here with us today. He has worked so hard for so many years and it is only proper that he should join us here where you rightly belong, John. We welcome you here.

Mr. RHODES. Thank you, Senator.

PREPARED STATEMENT OF SENATOR DECONCINI

Senator DECONCINI. If you have some tough questions for the Governors or the mayor, we will let you ask them. [Laughter.]

I ask unanimous consent, and without objection, my full statement will be printed in the record.

[The statement follows:]

STATEMENT OF SENATOR DECONCINI

Good morning. The Subcommittee on Energy and Water Development will accept testimony this morning from witnesses representing the State of Arizona. Governor Babbitt will make a presentation on behalf of the State's water users. After the Governor has completed his testimony, I will be happy to hear testimony from other individuals who are accompanying the Governor today.

Before we begin, I want to extend my thanks and appreciation to Chairman Hatfield for sponsoring this public witness hearing today. These public witness hearings are important. But, schedules are always tight and I appreciate the Chairman and his staff's willingness to find time to listen to the witnesses from the State of Arizona.

Today is an especially eventful day for the State of Arizona. We just returned from the Secretary of the Interior's office where Secretary Hodel, along with representatives of the various water entities in Arizona, signed an upfront cost-sharing agreement on features of Plan 6 of the Central Arizona Project. It was an historic ocassion as many have characterized it in that this is the first time a State has agreed to significantly share in the costs of construction of a major water project which has already been authorized. The State of Arizona and non-Federal water entities have agreed to contribute approximately $371 million to the construction of Plan 6 features with the first contribution due in August 1986. The agreement will allow the Department of the Interior to expedite completion of CAP components and ultimately will save Federal taxpayers a bundle of money. It is good for the State and it is good for the Federal government.

I must say that the lion's share of the credit for reaching this agreement should rightfully go to Governor Babbitt, who organized a series of meetings over the past year with all water users in the State of Arizona to formulate a comprehensive and responsible offer to the Federal government. Many of us were skeptical when these deliberations first began and doubted the State's ability to come up with a proposal that both the State and the Federal governments could live with. We have accomplished that goal and I feel special recognition should go to all Arizonans who are here today. You all worked very hard to keep the process on track. You invested substantial time and energy to insure that all components of the CAP progress without delay. I am grateful to all of you who participated in this process.

The FY 87 budget for the Central Arizona Project represents one of the largest requests I have ever witnessed for the project in the nine years I have been in the Senate, $203.9 million. This $203.9 million represents the Bureau's full capability for the CAP in FY 87. I commend the Secretary of the Interior for presenting a budget request that meets the Bureau's full capability. I do, however, want to acknowledge the fact that this probably would not have occurred had it not been for the State's willingness to negotiate a substantial cost-sharing proposal. In addition to the $203.9 million in FY 87 approximately $11.7 million will be available for the project from Arizona non-Federal entities.

The CAP is now 47 percent complete. With full funding in FY 87, we can keep the project on track and meet the anticipated water delivery schedules. We have witnessed a very historic event for the CAP over the past year. In November 1985, we shared in the celebration of the dedication of the CAP and witnessed the water deliveries which are now being made via the CAP aqueducts and canals in the Phoenix Metropolitan area. After all of the years when the CAP seemed a figment of our imagination, seeing the first water flows in the distribution canals, was a very gratifying experience. Countless individuals gave tremendous support to the CAP over the years to see the project through completion. It seems a long time, but we are now beginning to witness the fruits of that labor.

While everything seems to be moving smoothly and the budget request for FY 87 is sufficient to meet the commitments the Secretary of the Interior has made to Arizona entities for the new contributions, I do have serious concerns about the effect any Federal funding reductions could have on the project and construction schedules outlined in the cost-sharing agreement. The Bureau of Reclamation estimates that a 10 percent reduction in the CAP funding level could slip the Tucson water delivery schedule by one additional year. It could also slip the completion of New Waddell Dam and the completion of the non-Indian distribution systems. I feel compelled to point out once again that if the water delivery schedule for Tucson should slip, it will also delay the delivery of water to the Papago and Ak-Chin Indian communities. Under the terms of the existing water settlements, if the delivery dates should slip, the Federal government will be liable for large sums of money in damages. We are all concerned about budget deficits, particularly in light of Gramm-Rudman-Hollings. However, I believe we should do everything we can to insure that commitments made by the Federal government are upheld. Now is not the time to be shortsighted. Slipping the water delivery schedule for Tucson at a time when the State has signed a document agreeing to contribute $371 million to the construction of the CAP does not make sense. It also does not speak well for the Congress or the Administration. The result is only to increase the total cost of the project over time.

In terms of the CAP, I recommend to the Committee that it adopt the President's request for this project in FY 87.

While the CAP is and will continue to be this Senator's primary interest in the Energy and Water budget, there are other items of concern in the FY 87 Reclamation budget that command attention. These projects are the Spring Canyon Pump Storage Project under the General Investigations Program, and a unique problem concerning Coolidge Dam on the San Carlos Apache Indian reservation.

The Bureau of Reclamation initiated a feasibility study on Spring Canyon Pump Storage Project in Fiscal Year 1986. The project has received a very favorable endorsement from non-Federal sponsors who have agreed to share fifty percent of the costs of the project. Since this investigation is receiving a fifty percent contribution from the non-Federal entities, I believe we should provide funding to meet the Bureau's full capability in FY 87. Therefore, I would recommend that Federal funding be increased from the request of $270,000 to $1,275,000. I understand that the non-Federal sponsors have the funds to match their contribution to reflect the increased capability.

Additionally, dam safety problems at the Coolidge Dam, a BIA structure on the San Carlos Apache Indian reservation, have concerned area residents for many years. While the BIA has funded emergency safety of dams work on the penstocks and the switchyard, the BIA has no plans to undertake a long-term safety fix for the structure. In 1984, when the Congress reauthorized the Reclamation Safety of Dams Act, it named the Coolidge structure as an eligible entity under the Reclamation Safety of Dams program. Because this structure provides benefits to both Indian and non-Indian entities, I believe the appropriate jurisdiction for safety work should rest with the Bureau of Reclamation. For this reason, I am requesting that $500,000 be added to the Bureau budget to undertake a long-term safety modification study for Coolidge Dam.

Turning to the Corps of Engineers, the Corps is preceeding on its study to determine an appropriate flood control and water supply solution to areas near Phoenix, Arizona under the Salt and Gila River interim study authorized by the Gila River and Tributaries study. An additional $230,000 above the budget request for Fiscal Year 1987 will allow the Corps to complete the Salt-Gila interim study and advance completion of the final report by 12 months. Because of the urgent need to determine solutions to flooding from the Salt and Gila Rivers, I recommend that the Committee include this additional level of funding under the Gila River and Tributaries account.

Two last items I feel compelled to point out are two issues which the Senate considered when the Water Resources Development Act of 1986 was debated on the floor of the Senate. At that time, I added amendments to S. 1567 authorizing the Secretary of the Army to undertake a flood control project calling for the construction of a levee in Clifton, Arizona, and an amendment authorizing the Secretary to consider benefits that may accrue to Indian tribal homelands when evaluating the feasibility of a water project on Indian lands. In order that we expedite work on the levee project for Clifton, I suggest that language be included in the FY 87 bill to acknowledge the importance of a flood control solution for Clifton. Consequently, I recommend that the Committee also make available funds to initiate construction work on the levee in Fiscal Year 1987. Further, I believe the Committee should include language in its FY 87 report emphasizing the importance of including the benefits to Indian tribal homelands when potential water projects are evaluated.

I appreciate all of the support and assistance I have received from Chairman Hatfield and his staff over the years in response to Arizona water needs. For Fiscal Year 1987 the Subcommittee will be under tremendous pressure to reduce expenditures. If we can maintain the President's budget request for water programs, with a few adjustments, this Senator will be very pleased.

CAP NEW COST-SHARING AGREEMENT

Senator DECONCINI. Today, it gives me great pleasure to take testimony from the Governor of Arizona, Bruce Babbitt; the mayor of the city of Phoenix, Terry Goddard; and other water officials on the Central Arizona Project and other water-related needs of Arizona.

My full prepared statement goes into great detail of the significance of the recent signing that we had just today at Secretary Hodel's office. We have just returned from his office.

This agreement requires the State of Arizona to contribute $371 million to the construction of plan 6 of the Central Arizona Project. The Governor and all Arizonans present here today—Governor Babbitt, we owe you a great deal of gratitude for the leadership you have been able to mold; what I would have considered an impossible mold of all the diverse interests in Arizona. You have taken the leadership that has demonstrated that partisan politics is not important; what is important is the good of our State. I compliment you for that.

It is for this reason that it is imperative that we fund the Central Arizona Project at a full capacity in fiscal year 1987. The request of $203.9 million will allow the Bureau to keep the project on track, while living up to its commitments to the signators of the cost-sharing agreement.

We will have some tough challenges before this committee as we proceed through the process. With Gramm-Rudman-Hollings, our job will be even more difficult. With the fine work of the State water interests that have been contributed over the years for this project, I am hopeful that we can convince this panel, and the entire Senate, to maintain the President's budget request.

This is most important to Mayor Goddard—your leadership among the cities—and the other mayors who have joined, sacrificed, and been willing to put up some of the front money.

My compliments to you. I am now prepared to take the testimony of the Governor, the mayor, and the other witnesses. Would you please come forward?

STATEMENT OF HON. BRUCE BABBITT, GOVERNOR OF ARIZONA

ACCOMPANIED BY TERRY GODDARD, MAYOR OF PHOENIX

Governor BABBITT. Mr. Chairman and Senator Mattingly, I would like at the outset to submit my written statement for the record, together with statements of the Central Arizona Project and the Maricopa-Stanfield Irrigation and Drainage Districts.

Senator DECONCINI. Without objection, they will appear in the record at this point.

[The statements follow:]

STATEMENT OF GOV. BRUCE BABBITT OF ARIZONA

MR. CHAIRMAN, AND MEMBERS OF THIS IMPORTANT COMMITTEE, I APPRECIATE THE OPPORTUNITY TO APPEAR BEFORE YOU ONCE AGAIN IN SUPPORT OF FUNDING FOR CONTINUED CONSTRUCTION OF THE CENTRAL ARIZONA PROJECT. EXCELLENT PROGRESS HAS BEEN MADE SINCE MY LAST APPEARANCE BEFORE THIS COMMITTEE ON ALL FRONTS ON THE CAP.

COLORADO RIVER WATER HAS ALREADY BEEN DELIVERED, THROUGH THE GRANITE REEF AQUEDUCT, TO THE CITY OF PHOENIX AT ITS UNION HILLS WATER TREATMENT PLANT., TO THE HARQUAHALA VALLEY IRRIGATION DISTRICT AND TO THE MARICOPA WATER DISTRICT. THE ARRIVAL OF CENTRAL ARIZONA PROJECT WATER WAS CELEBRATED LAST NOVEMBER IN PHOENIX BY A JOYFUL GROUP REPRESENTING FOUR GENERATIONS OF PROJECT SUPPORTERS.

THE SALT/GILA AQUEDUCT, WHICH LINKS THE GRANITE REEF AND TUCSON AQUEDUCTS, IS ALSO COMPLETE. THE FIRST DELIVERIES OF COLORADO RIVER WATER TO PINAL COUNTY WILL BE MADE THIS SUMMER.

CONSTRUCTION OF THE TUCSON AQUEDUCT IS PROGRESSING WELL WITH ALL ELEMENTS OF PHASE A UNDER CONTRACT. THE ROUTE FOR PHASE B HAS BEEN SELECTED AND CONSTRUCTION WILL BEGIN THIS SPRING. COMPLETION OF THE TUCSON AQUEDUCT AND INITIAL WATER DELIVERIES TO SOUTHERN ARIZONA ARE EXPECTED IN 1991.

IN AN EFFORT TO BE READY TO RECEIVE CAP WATER AS SOON AS IT IS AVAILABLE, IRRIGATION DISTRICTS HAVE COMPLETED CONSTRUCTION OF OVER 100 MILES OF CANALS WITH ANOTHER 500 MILES UNDER CONSTRUCTION OR ON THE DRAWING BOARDS. THE CITIES OF PHOENIX, GLENDALE, MESA, SCOTTSDALE, AND TUCSON ARE IN THE PROCESS OF PLANNING, BUILDING OR COMPLETING TREATMENT PLANTS FOR COLORADO RIVER WATER.

DISTRIBUTION SYSTEMS ARE PLANNED OR UNDER CONSTRUCTION ON THE 12 INDIAN RESERVATIONS WHICH HAVE CAP ALLOTMENTS. THE FEDERAL GOVERNMENT HAS CONTRACTED TO DELIVER WATER TO THE AK-CHIN RESERVATION BY 1988 AND TO THE SAN XAVIER AND SCHUK TOAK DISTRICTS OF THE TOHONO O'ODHAM RESERVATION BY 1991. DELAYS BEYOND THESE DATES IMPOSE SERIOUS FINANCIAL PENALTIES ON THE FEDERAL GOVERNMENT.

WE ANTICIPATE THAT DEMAND FOR CAP WATER WILL FAR EXCEED THE SUPPLY. MUNICIPAL AND INDUSTRIAL ALLOTTEES HAVE ALREADY ENTERED INTO SUBCONTRACTS FOR OVER 454,000 ACRE-FEET, OR ABOUT 71 PERCENT OF THE SUPPLY AVAILABLE FOR M&I USE. IRRIGATED AGRICULTURE HAS CONTRACTED FOR OVER 70 PERCENT OF THE PROJECT'S AGRICULTURAL SUPPLY. THE CONTRACTING PROCESS IS PROCEEDING ON SCHEDULE AND THE FULL WATER SUPPLY IS EXPECTED TO BE UNDER CONTRACT TO FACILITATE DELIVERIES AS PROJECT FEATURES, DISTRIBUTION SYSTEMS AND TREATMENT FACILITIES ARE COMPLETED.

IN SUMMARY, THE PAST YEAR HAS BEEN A PRODUCTIVE ONE FOR THE CENTRAL ARIZONA PROJECT. THE TERMINUS NEAR TUCSON IS IN SIGHT, FARM DISTRIBUTION SYSTEMS ARE UNDER CONSTRUCTION AND WATER DELIVERIES WERE MADE ON SCHEDULE TO HARQUAHALA VALLEY AND MARICOPA WATER IRRIGATION DISTRICTS AND THE CITY OF PHOENIX. STILL, THERE IS MUCH WORK TO BE DONE TO COMPLETE THE AUTHORIZED FEATURES OF THE PROJECT. THE TUCSON AQUEDUCT, PLAN 6, AND INDIAN AND NON-INDIAN DISTRIBUTION SYSTEMS ARE ESSENTIAL FOR ARIZONA TO EFFICIENTLY UTILIZE ITS COLORADO RIVER ENTITLEMENT.

RECOGNIZING THIS., ARIZONANS HAVE BEEN WORKING DILIGENTLY, ALONG WITH REPRESENTATIVES OF THE SECRETARY OF INTERIOR, ON A COST SHARING AGREEMENT COVERING THE REMAINING WORK TO BE COMPLETED ON THE CAP. I AM PLEASED TO REPORT TO YOU THAT THIS HISTORIC COST SHARING AGREEMENT HAS BEEN EXECUTED. UNDER THE AGREEMENT ARIZONA INTERESTS WILL ADVANCE AN ESTIMATED $371 MILLION TOWARD THE CON-

STRUCTION COST OF PLAN 6 FEATURES IN RETURN FOR FEDERAL ASSURANCES THAT ALL FEATURES OF THE CAP WILL BE COMPLETED BY 1997. TO MEET THIS DATE FEDERAL FUNDING FOR THE CAP MUST EXCEED $200 MILLION IN EACH OF THE NEXT THREE BUDGET YEARS AND AN ESTIMATED $180 MILLION EACH YEAR THEREAFTER UNTIL COMPLETION.

OVER THE YEARS ARIZONA HAS BEEN BLESSED WITH OUTSTANDING REPRESENTATION IN CONGRESS. SINCE THE FIRST EFFORTS TO AUTHORIZE THE CENTRAL ARIZONA PROJECT BEGAN IN THE 1940's EVERY CONGRESSMAN AND EVERY SENATOR FROM THE STATE OF ARIZONA HAS AGRESSIVELY SUPPORTED THE PROJECT. OUR DELEGATION HAS BEEN UNITED ON ALL ISSUES AFFECTING THE CAP AND CONTINUES TO BE UNITED IN SUPPORT OF THE COST SHARING AGREEMENT AND THE LEVEL OF FEDERAL AND LOCAL FUNDING NECESSARY TO CARRY IT OUT.

WHY HAS OUR DELEGATION REMAINED UNITED ON CAP ISSUES FOR OVER 40 YEARS? BECAUSE COMPLETION OF THE CAP AT THE EARLIEST PRACTICABLE DATE IS VITAL TO OUR STATE. WATER IS BEING CONSUMED IN ARIZONA AT ALMOST TWICE THE REPLENISHMENT RATE. THE DIFFERENCE REPRESENTS A CONTINUING OVERDRAFT OF IRREPLACEABLE GROUNDWATER RESOURCES. I AM PLEASED TO REPORT, HOWEVER, THAT WE ARE TAKING THE NECESSARY ACTIONS TO OVERCOME THIS "DEFICIENT SPENDING" APPROACH TO WATER SUPPLY. IN 1980 ARIZONA ADOPTED THE MOST COMPREHENSIVE GROUNDWATER MANAGEMENT CODE IN THE COUNTRY DESIGNED TO ASSURE A BALANCE BETWEEN WATER USE AND SUPPLY BY THE YEAR 2025. WE ARE WELL ON OUR WAY IN IMPLEMENTING THE CODE. WE HAVE QUANTIFIED GROUNDWATER RIGHTS AND ADOPTED MANDATORY CONSERVATION REQUIREMENTS. HOWEVER, ACHIEVING THE GOAL OF A BALANCE BETWEEN WATER SUPPLY AND CONSUMPTION IS DEPENDENT UPON TIMELY COMPLETION OF THE CENTRAL ARIZONA PROJECT. ARIZONA'S REMAINING ENTITLEMENT OF COLORADO RIVER WATER WILL OFFSET ABOUT TWO-THIRDS OF THE GROUNDWATER OVERDRAFT IN CENTRAL AND SOUTHERN ARIZONA.

COMPLETION OF THE CAP IS CRITICAL FOR ANOTHER REASON - FLOOD CONTROL. THE PHOENIX METROPOLITAN AREA IS THE MOST POPULATED AREA IN THE UNITED STATES THAT IS BISECTED BY A MAJOR RIVER SYSTEM, BUT DOES NOT HAVE A SINGLE ACRE-FOOT OF RESERVOIR STORAGE SPACE DEDICATED TO FLOOD CONTROL. AS A RESULT, ONE OF THE MOST RAPIDLY GROWING AREAS IN OUR COUNTRY HAS BEEN RAVAGED REPEATEDLY BY FLOOD FLOWS IN RECENT YEARS. THIS FLOODING COULD BE CONTROLLED WITH UPSTREAM RESERVOIR STORAGE SPACE RESERVED FOR FLOOD CONTROL.

THE RISK OF FLOODING IN THE PHOENIX METROPOLITAN AREAS WAS MAGNIFIED A FEW YEARS AGO WITH THE DISCOVERY OF MAJOR SAFETY PROBLEMS AT SIX EXISTING UPSTREAM WATER CONSERVATION RESERVOIRS. FAILURE OF ANY OF THESE DAMS WOULD HAVE CATASTROPHIC IMPACTS ON THE CITIES BELOW.

THE FEATURES OF PLAN 6 WILL PROVIDE THE CHEAPEST INSURANCE AGAINST THESE TWO HIGH RISK DANGERS, WHILE ALSO PROVIDING ADDITIONAL WATER SUPPLY AND POWER BENEFITS. WE MUST GET THESE DAMS IN PLACE AS SOON AS POSSIBLE.

ARIZONANS RECOGNIZE THE IMPORTANCE OF WATER MANAGEMENT. WE HAVE ENACTED PROGRESSIVE STATE LAWS AND ACCEPTED THE NEED TO FUND UP-FRONT A PORTION OF THE CAP. THE COST SHARING AGREEMENT WE HAVE SIGNED WITH THE SECRETARY IS AN HISTORIC DOCUMENT, ONE THAT WARRANTS YOUR FULL SUPPORT. RECOGNIZING THE SIGNIFICANCE OF THE AGREEMENT, PRESIDENT REAGAN HAS RECOMMENDED AN APPROPRIATION OF $204.9 MILLION FOR THE CAP IN HIS FY 1987 BUDGET. THE PRESIDENT'S BUDGET CALLED FOR A NON-FEDERAL CONTRIBUTION OF $8 MILLION. I HAVE BEEN ADVISED THAT THESE AMOUNTS ARE SUFFICIENT TO MAINTAIN THE CONSTRUCTION SCHEDULES SET FORTH IN THE AGREEMENT AND FOR THE BUREAU OF RECLAMATION TO PERFORM THE NECESSARY ENGINEERING AND ADMINISTRATION FOR EFFICIENT EXECUTION OF THE AGREEMENT.

I URGE YOUR SUPPORT OF THE PRESIDENT'S REQUEST FOR $204.9 MILLION FOR FY 1987 IN THIS CRUCIAL FIRST YEAR OF OUR COST SHARING AGREEMENT.

LET ME TAKE THIS OPPORTUNITY TO ADDRESS OTHER FUNDING MATTERS. I AM PLEASED THAT THE U.S. ARMY CORPS OF ENGINEERS HAS INITIATED CONSTRUCTION OF THE FINAL FEATURE OF THE PHOENIX, ARIZONA AND VICINITY PROJECT, THE ARIZONA CANAL DIVERSION CHANNEL. THE COMPLETION OF THIS PORTION OF THE PROJECT WILL PROVIDE THE PHOENIX METROPOLITAN AREA A HIGH DEGREE OF FLOOD PROTECTION. I ENCOURAGE YOU TO CONTINUE FUNDING AT THE OPTIMAL LEVEL TO ENSURE TIMELY COMPLETION OF THE PROJECT.

IN ADDITION, THE CORPS HAS SEVERAL FLOOD CONTROL STUDIES UNDERWAY IN OTHER AREAS OF THE STATE. I STRONGLY SUPPORT THE CORPS EFFORTS ON THE GILA RIVER AND ITS TRIBUTARIES, ALONG NOGALES WASH IN THE SOUTHERN PORTION OF THE STATE, ALONG THE RILLITO RIVER NEAR TUCSON, AND NEAR CLIFTON AND SAFFORD IN THE EASTERN PORTION OF THE STATE. ALL OF THESE AREAS HAVE RECENTLY BEEN RAVAGED BY SEVERE FLOODING.

MR. CHAIRMAN, I WANT TO ALSO TAKE THIS OPPORTUNITY TO DISCUSS THE BUREAU OF RECLAMATION COLORADO RIVER WATER QUALITY IMPROVEMENT PROGRAM. WHEN CAP BECOMES FULLY OPERATIONAL ARIZONA'S COLORADO RIVER SOURCE WILL REPRESENT OVER 60 PERCENT OF THE STATE'S DEPENDABLE SUPPLY. WE ARE VERY CONCERNED ABOUT THE SALINITY LEVELS OF THIS ESSENTIAL SUPPLY. THE PRESIDENT'S BUDGET INCLUDES $28.8 MILLION FOR CONSTRUCTION AND PLANNING OF FACILITIES UNDER THE BUREAU'S PROGRAM. I URGE YOUR SUPPORT OF THE BUDGETED AMOUNT.

I WOULD ALSO LIKE TO THANK THE COMMITTEE FOR DIRECTING THE U.S. BUREAU OF RECLAMATION, IN YOUR APPROPRIATIONS REPORT FOR FISCAL YEAR 1986, TO PROCEED EXPEDITIOUSLY WITH SAFETY OF DAMS MODIFICATIONS ON THE SALT AND VERDE RIVERS.

IT IS MY UNDERSTANDING THAT THE ADMINISTRATION'S BUDGET ATTEMPTS TO DO JUST THAT. FUNDS INCLUDED IN THE CENTRAL ARIZONA PROJECT APPROPRIATION, ALONG WITH $1.1 MILLION FOR ROOSEVELT DAM AND $2.2 MILLION FOR STEWART MOUNTAIN DAM PROVIDED IN THE SAFETY OF DAMS PROGRAM, WOULD PERMIT PRECONSTRUCTION WORK TO GO FORWARD AT THESE DAMS. HOWEVER, I AM ADVISED THAT IN ORDER FOR ESSENTIAL PRE-CONSTRUCTION ACTIVITIES TO CONTINUE IN A TIMELY FASHION AT ROOSEVELT DAM, THE BUREAU OF RECLAMATION REQUIRES AN ADDITIONAL $3.1 MILLION.

THE IMPORTANCE OF THESE DAM SAFETY MODIFICATIONS WAS PUT INTO SHARP PERSPECTIVE BY EXTRAORDINARY EVENTS SIX YEARS AGO WHEN A SERIES OF WARM STORMS MOVED INTO ARIZONA, STRIPPING THE MOUNTAIN WATERSHED OF ITS SNOW COVER AND DUMPING A RECORD 16 INCHES OF RAIN INTO THE STREAMS AND TRIBUTARIES THAT FEED THE DAMS ON THE SALT AND VERDE RIVERS.

ON THE EVENING OF FEBRUARY 15, 1980, I WAS INFORMED THAT STILL ANOTHER STORM WAS EXPECTED BY MORNING AND THAT THE RAIN WOULD CAUSE STEWART MOUNTAIN DAM TO OVERTOP AND, ULTIMATELY, TO FAIL. I ORDERED STATE AND LOCAL EMERGENCY SERVICE OFFICIALS TO PREPARE FOR THE EVACUATION OF EVERYONE LIVING WITHIN A MILE OF BOTH BANKS OF THE SALT RIVER IN DOWNTOWN PHOENIX.

I WENT ON RADIO AND TELEVISION TO WARN THE PHOENIX METROPOLITAN AREA TO BE PREPARED FOR THE POSSIBILITY OF A DISASTER GREATER THAN ANYTHING ARIZONA HAD KNOWN. AT THE LAST MINUTE, THAT STORM VEERED SOUTH, AND THE VALLEY WAS SPARED.

THE POSSIBILITY OF THAT KIND OF DISASTER IS NO LESS REAL TODAY THAN IT WAS SIX YEARS AGO. IF THE 1.8 MILLION PEOPLE OF THE PHOENIX METROPOLITAN AREA WERE TO EXPERIENCE SUCH A TRAGEDY, THE DESTRUC-

TION AND DEVASTATION WOULD EXCEED THE TOLL TAKEN IN CALIFORNIA DURING THE FLOODING THERE LAST FEBRUARY.

THEREFORE, I RESPECTFULLY URGE THIS COMMITTEE TO PROVIDE THE BUREAU OF RECLAMATION WITH THE LEVEL OF FUNDING REQUIRED TO EXPEDITE COMPLETION OF THE SAFETY MODIFICATIONS ON THE SALT AND VERDE RIVERS.

WHILE I AM ENCOURAGED BY THE SUPPORT FOR SAFETY OF DAMS MODIFICATION ON THE SALT AND VERDE RIVERS, I AM CONCERNED ABOUT THE SITUATION AT COOLIDGE DAM ON THE GILA RIVER. THE BUREAU OF INDIAN AFFAIRS IS THE OWNER/OPERATOR OF THIS DAM WHICH IS IN NEED OF REPAIRS TO MEET SAFETY STANDARDS. NO FUNDS ARE IN THE ADMINISTRATION'S BUDGET FOR THE BUREAU OF RECLAMATION TO COMPLETE STUDIES TO DETERMINE THE EXTENT AND COST OF WORK NECESSARY TO MAKE REPAIRS TO THE DAM. I UNDERSTAND THE COST OF THESE STUDIES IS ESTIMATED TO BE ABOUT $500,000 AND THE BUREAU HAS THE CAPABILITY TO UNDERTAKE THE WORK. I ENCOURAGE YOU TO FUND THIS NEEDED WORK IN THE DEPARTMENT OF THE INTERIOR'S BUDGET.

MR. CHAIRMAN, A WORD ABOUT THE CONCERNS OF THE SALT RIVER PIMA-MARICOPA AND FT. McDOWELL MOHAVE-APACHE INDIAN COMMUNITIES OVER PLAN 6 AND THEIR WATER RIGHTS. NEGOTIATIONS TO SETTLE THE TRIBES' WATER RIGHTS ARE CURRENTLY UNDERWAY. I BELIEVE THE PLAN 6 FACILITIES WILL HELP FACILITATE RATHER THAN HINDER A RESOLUTION OF THE TRIBES' RIGHTS. RATHER THAN HOLD UP CONSTRUCTION OF NEW RESERVOIRS ON THE SALT AND VERDE RIVERS UNTIL THE WATER RIGHTS ISSUES ARE RESOLVED, WE SHOULD PROCEED ON BOTH FRONTS. I STRONGLY SUPPORT THE CURRENT NEGOTIATIONS AND IF IT WILL BE OF VALUE I WILL PERSONALLY INVOLVE MYSELF TO ASSURE THAT EVERY REASONABLE EFFORT IS MADE TO REACH AN ACCEPTABLE SOLUTION.

WE THANK THE COMMITTEE FOR ITS CONTINUING, STRONG SUPPORT OF WATER RESOURCE DEVELOPMENT IN ARIZONA.

STATEMENT OF TERRY GODDARD, MAYOR, PHOENIX, AZ

Mr. Chairman, committee members; my name is Terry Goddard. I am the mayor of the city of Phoenix. I am pleased to be able to actively support the Central Arizona Project funding presented in President Reagan's budget request. The President's request recognizes a new relationship between the United States and Central Arizona Project beneficiaries. That relationship is memorialized in the cost-sharing agreement between the United States and 11 Arizona parties which will bring at least $373 million in local cost-sharing to this project between September 1986 and 1995. To my knowledge, this historic agreement reflects the first time that a cost-sharing arrangement has been reached on an already authorized project which was under active construction.

During the next 9 years, the city of Phoenix alone will contribute over $33 million to assure completion of the Central Arizona Project including the modification of Roosevelt Dam and construction of Cliff Dam providing water conservation, flood control, and dam safety. In addition, Phoenix water customers will contribute over $140 million over the life of the project toward repayment of the CAP as provided by law. We have recognized the wisdom of local participation in flood control, water development, and hydroelectric projects and appreciate the leadership and support of the Congress and administration in developing a fair cost-sharing arrangement.

We have affirmed the high priority of the Central Arizona Project by both our political and financial commitment. I would ask that this committee support the President's appropriation request so that the United States and the people of Arizona can finish the project as partners.

Thank you, Mr. Chairman.

STATEMENT OF THE METROPOLITAN WATER DISTRICT OF SOUTHERN CALIFORNIA

The Metropolitan Water District of Southern California again wishes to advise your committee that it supports appropriations for the Central Arizona Project. The project, which saw its first regularly scheduled water deliveries into the Phoenix reaches of the aqueduct this fiscal year, still has substantial work to complete before its benefits reach all the areas contemplated in the authorizing legislation. The major works to deliver water into the Tucson area are just underway and funding levels must be adequate to keep this construction on schedule.

Metropolitan has been supportive of the project since passage of the 1968 authorizing legislation. At that time, benefits for the entire Colorado River basin were developed and the needs of central Arizona were recognized. In the very arid regions of Arizona where seriously declining ground water levels are being experienced, water demand is increasing to serve its rapidly expanding population.

Arizona has taken major steps to improve its own local resource management with the adoption of ground water protection legislation and water conservation measures. It has put its own house in order and now its last resource, the Colorado River, must be developed to supplement its local resources.

STATEMENT OF JOHN E. SMITH, PRESIDENT OF THE BOARD OF DIRECTORS, MARICOPA-STANFIELD IRRIGATION AND DRAINAGE DISTRICT

Mr. Chairman and members of the subcommittee, my name is John E. Smith. I am president of the board of directors of the Maricopa-Stanfield Irrigation and Drainage District which comprises approximately 88,000 acres of irrigated land in northwestern Pinal County, AZ. On behalf of the board of directors of the district, I wish to thank you for the opportunity to present this statement and to express our full support of the Governor's testimony which has been presented to you.

I am pleased to report to you that as a result of the generosity of your subcommittee and the Congress with funding, construction of the first two units of the district's irrigation distribution system—namely, the 56-mile-long Santa Rosa Canal, divisions A and B—is proceeding as scheduled and will be completed in the summer of 1987 for intial delivery of Central Arizona Project water to district lands. Bids on our first distribution lateral unit will be opened next month. All five remaining units of our distribution system are in varying stages of design and the last unit is scheduled for completion during 1988.

The Santa Rosa Canal is a major feature of our distribution system which will convey water from the CAP Aqueduct to serve not only our district, but also the Ak-Chin and Papago Chuichu Indian communities, a portion of the Central Arizona Irrigation and Drainage District, and some of the nearby Pinal County communities. The construction bids for both divisions of the Santa Rosa Canal were below the engineer's estimates and within the fund allowance for this work in the district's 1982 project feasibility report.

The cost of constructing the district's distribution system project is estimated at $97.5 million. The district issued $26 million in general obligation bonds to fund its share of the construction cost. To assist in keeping construction on schedule, the district is currently spending bond proceeds as up-front financing at a rate of over $300,000 per month for legal, administrative, and engineering costs relative to acquisition of rights-of-way, design, and construction management. The district's cash contribution through March 1986 totals nearly $6.5 million, not including $4.6 million in interest payments on the bonds.

In addition to the $26 million in district bonds for distribution system construction, the district and its landowners are committed to substantial costs for on-farm improvements of irrigation ditches for water conveyance and laser-controlled land leveling to achieve water conservation. Thus, the district's overall financial investment in the project represents far more than the 20 percent required by the Colorado River Basin Project Act as amended. The Federal investment in the distribution system is, of course, fully reimbursable by the water users.

Timely completion of our distribution system and delivery of the CAP water is critical to the preservation of our farms and the economy of the communities in our area, and to avoid the financial problems our landowners would face with the costs of operating wells for a full water supply and making bond payments at the same time if there would be a delay in delivery of CAP water.

The district would like to take this opportunity to acknowledge the excellent cooperation we have received from the Bureau of Reclamation at all levels and, in particular, in the day-to-day activities with the Arizona projects office in Phoenix.

We wish to again thank the subcommittee for its consideration and past generosity to the Central Arizona Project. With timely appropriations by Congress and the use of our bond money, we are confident that our partnership arrangement with the United States will bring long-awaited CAP water to our lands as scheduled.

STATEMENT OF ROBERT F. BARCELLO, PRESIDENT OF THE BOARD OF DIRECTORS, NEW MAGMA IRRIGATION AND DRAINAGE DISTRICT

Mr. Chairman and members of the subcommittee, my name is Robert F. Barcello. I am president of the board of directors of the New Magma Irrigation and Drainage District which comprises approximately 27,000 acres of irrigated land in northeastern Pinal County, AZ. On behalf of the board of directors of the district, I wish to thank you for the opportunity to present this statement and to express our full support of the Governor's testimony which has been presented to you.

I am pleased to report to you that, as a result of the generosity of your subcommittee and the Congress with funding, all four of our district's distribution lateral systems, including the necessary pumping plants, are currently under construction and will be completed early in 1987. In fact, lateral systems A and B, our first two systems, are scheduled to deliver CAP water this summer to about 9,000 acres. We will soon be proceeding with contracts for construction of the district's office and shop facilities, purchase of the required operation and maintenance equipment, and installation of farm turnout meters and the operational control system. We have employed a manager and will be employing additional staff in preparation for operation of our project.

The cost of constructing the project distribution system is estimated to be $21.9 million. The bids for construction work currently in progress have been within the fund allowance in the district's 1982 project feasibility report. The district issued $7.1 million in general obligation bonds to fund its share of the construction cost. To assist in keeping construction on schedule, the district is currently spending bond proceeds as up-front financing at a rate of over $100,000 per month for legal, administrative, and engineering costs relative to acquisition of rights-of-way, design, and construction management. The district's cash contribution through March 1986 totals nearly $2.7 million, not including $1.3 million in interest payments on the bonds.

In addition to the $7.1 million in district bonds for distribution system construction, the district and its landowners are committed to substantial costs for on-farm improvements of irrigation ditches for water conveyance and laser-controlled land leveling to achieve water conservation. Thus, the district's overall financial investment in the project represents far more than the 20 percent required by the Colorado River Basin Project Act as amended. The Federal investment in the distribution system is, of course, fully reimbursable by the water users.

Timely completion of our distribution system and delivery of the CAP water is critical to the preservation of our farms and the economy of the communities in our area, and to avoid the financial problems our landowners would face with the costs of operating wells for a full water supply and making bond payments at the same time if there would be a delay in delivery of CAP water.

The district would like to take this opportunity to acknowledge the excellent cooperation we have received from the Bureau of Reclamation at all levels and, in particular, in the day-to-day activities with the Arizona projects office in Phoenix.

We wish to again thank the subcommittee for its consideration and past generosity to the Central Arizona Project. With timely appropriations by Congress and the use of our bond money, we are confident that our partnership arrangement with the United States will bring long-awaited CAP water to our lands as scheduled.

STATEMENT OF NORMAN PRETZER, PRESIDENT OF THE BOARD OF DIRECTORS, CENTRAL ARIZONA IRRIGATION AND DRAINAGE DISTRICT

Mr. Chairman and members of the subcommittee, my name is Norman Pretzer. I am president of the board of directors of the Central Arrizona Irrigation and Drainage District which comprises approximately 87,000 acres of irrigated land in south-central Pinal County, AZ. On behalf of the board of directors of the district, I wish to thank you for the opportunity to present this statement and to express our full support of the Governor's testimony which has been presented to you.

I am pleased to report to you that, as a result of the generosity of your subcommittee and the Congress with funding, construction of the Santa Rosa Canal and the north distribution system, the first two units of the district's irrigation distribution system, is proceeding as scheduled and will be completed by the summer of 1987 for initial delivery of Central Arizona Project water to district lands. The Santa Rosa Canal will convey water from the CAP Aqueduct to serve not only the northern 17,000 acres of our district, but also the Ak-Chin and Papago Chuichu Indian communities, the Maricopa-Stanfield Irrigation and Drainage District, and some of the nearby Pinal County communities. The construction bids for both the Santa Rosa Canal and the north distribution system were below the engineer's estimates and within the fund allowance for this work in the district's 1982 project feasibility report.

Construction will begin this summer on the central main canal, a 17-mile long main conveyance facility. All eight remaining units of our distribution system are in varying stages of design and the last unit is scheduled for completion during 1989.

The cost of constructing the project distribution system is estimated at $83.6 million. The district issued $22.7 million in general obligation bonds to fund its share of the construction cost. To assist in keeping construction on schedule, the district is currently spending bond proceeds as up-front financing at a rate of over $250,000 per month for legal, administrative, and engineering costs relative to acquisition of rights-of-way, design, and construction management. The district's cash contribution through March 1986 totals nearly $3.0 million, not including $4.2 million in interest payments on the bonds.

In addition to the $22.7 million in district bonds for distribution system construction, the district and its landowners are committed to substantial costs for on-farm improvements of irrigation ditches for water conveyance and laser-controlled land leveling to achieve water conservation. Thus, the district's overall financial investment in the project represents far more than the 20 percent required by the Colorado River Basin Project Act as amended. The Federal investment in the distribution system is, of course, fully reimbursable by the water users.

Timely completion of our distribution system and delivery of the CAP water is critical to the preservation of our farms and the economy of the communities in our area, and to avoid the financial problems our landowners would face with the costs of operating wells for a full water supply and making bond payments at the same time if there would be a delay in delivery of CAP water.

The district would like to take this opportunity to acknowledge the excellent cooperation we have received from the Bureau of Reclamation at all levels and, in particular, in the day-to-day activities with the Arizona projects office in Phoenix.

We wish to again thank the subcommittee for its consideration and past generosity to the Central Arizona Project. With timely appropriations by Congress and the use of our bond money, we are confident that our partnership arrangement with the United States will bring long-awaited CAP water to our lands as scheduled.

SUMMARY REMARKS

Governor **Babbitt**. Senator, I have been before this committee, now, for I believe this is the ninth year, and it will be my last appearance before this committee. I would like particularly to acknowledge your efforts and our partnership over the last 9 years.

This reclamation project has been a moving target through the years. As it moves along, inevitably it has been changed in concept and in design; most notably, with the advent of the concept of cost sharing and the various measures that were necessary to get there: the Hoover Dam bill, a variety of dam safety issues, and many, many interrelated items.

Your counsel and our partnership in steering this project through those changes I acknowledge with a lot of gratitude. This simply would not have been possible for us to stay afloat and to reshape this project without your understanding of this process and your willingness to guide us through this process and explain how it is that we make this transition as successful as we have to date.

I would like, in lieu of reading the statement, to just make a few comments. In my ninth year, and as I take leave as Governor of Arizona, I think I reflect for all of the people of Arizona that we are immensely grateful for the partnership that has been worked out with the U.S. Congress and the fruit that it has borne.

The project is now across the midpoint. We had a little gathering last November to celebrate the first water delivery to Phoenix, several hundred miles up from the Colorado River, a dream come true, is a vision that scarcely seemed possible 20 or 30 years ago.

We attribute the members of the Arizona delegation past and present as testimony to a remarkable partnership between our State and the U.S. Congress.

WATER DELIVERY CONTRACTS

The water contracts are being sought. Seventy percent of municipal and industrial water is now contracted for. The local irrigation districts are making the capital investments, substantially in excess of the requirements that were imposed in law. The cities, including the city of Phoenix, are now building their water treatment plants. The project is actually delivering water; it is actually functioning.

We are over the midpoint and are now moving down to Tucson and beginning work on all the ancillary power management and flood control measures. In that process, with the advice and encouragement of our delegation and this Congress, we have broken a lot of new ground in Federal and State water management.

I will cite just three issues as an illustration of that. Successive administrations have said to Arizona, as a condition of the Federal reclamation project, an investment of this size, you must get into the business of intensive water management.

That resulted some years ago in the passage of the most comprehensive, intense water management system in the United States of America. We have put limits on ground water overdrafting; begun to mandate conservation on cities, farms; in sum, made a statement that in exchange for the rescue that this project brings, we are going to guarantee it a water management system that will live within the limits imposed by nature in the western environment.

COST-SHARING REFORM

That is an achievement, I think, that redounds to the credit of the Federal Government and sets a model for much of the rest of the Nation. The agreement that we signed this morning, I think, is much in the same vein. The message that I started getting 4 or 5 years ago from Senator DeConcini and the delegation was that times are changing. Western States must begin to understand that the sharing of costs is going to be a condition of reclamation and infrastructure investments in the future.

That was a tough message for the Westerners to accept. We had gone all these years on 100 cents on the dollar, but we have made the transition, and the ceremony we had with the Secretary this morning, the bottom line of it was that Arizona is putting up $350 million of front-end contributions for the completion of this project. It wasn't easy to do; it took a lot of pushing and hauling, because that money comes out of local interests.

But once again, it is a recognition that the quid pro quo for these reclamation projects must be changed, the acceptance of change, and our willingness to put our money where our mouth is.

INDIAN WATER RIGHTS ISSUES

Finally, and I would think of some increased interest to this committee and, indeed, to the entire Senate, is this issue of Indian water rights, because I think one other message that we have gotten very clearly from our delegation, from the U.S. Congress is that reclamation projects ought to carry with them the resolution of Indian water claims, which are a Federal trust responsibility, and that those who come for reclamation must also come with a plan for fulfilling the Federal trust responsibility to Indian tribes.

We have come a long way on that score. In southern Arizona, we set up the Ak-Chin and Papago Tribes; Secretary Andrus worked out an allocation scheme with us some years ago that gave rather impressive entitlement claims to the central Arizona Indian tribes, but we are still not there, and you have heard this week from the Salt River Indian Tribe and the Fort McDowell Indian Tribe, both of them located in the Phoenix area, both of them, frankly, saying to this committee their futures are wrapped up in the settlement of our claims in connection with the completion of this project.

I believe that that is a valid and correct position, and my suggestion is that the people of Arizona, the Federal Government, this committee, the Department of the Interior, is that it is appropriate for us to take notice of the Federal intent that those claims be settled and that they be settled soon and that the Salt River project be on notice before the people of Arizona that the ultimate completion of this reclamation project rests with their willingness to put a little more energy behind the settlement of its claims.

All of that is just another way of saying, in summary, that we are very grateful for the help and assistance that we have received from the U.S. Congress. We believe that in the process of this partnership we have worked out a lot of very good reclamation policy relating to mandatory water management; the sharing of costs and the settling of Indian claims.

Finally, in my written testimony, I cover some other items relating to flood control planning and dam safety within the jurisdiction of both the Bureau and the Corps of Engineers.

You have been exceedingly attentive of this project. I recognize that times are difficult. We are doing our best to help, and we are, Senator DeConcini, Senator Mattingly, Mr. Rhodes, we are very grateful for your assistance.

Thank you.

Senator DECONCINI. Thank you, Governor.

At this time, I want to indicate that Senator Goldwater who, of course, was here longer than me, who came with John Rhodes, has played such a masterful part in securing this appropriation each year and authorization for the CAP, cannot be with us today to lend his support. He was just released from Walter Reed Hospital today—nothing serious—and he will be back in the Senate in a few days. He asked that the record show that he is certainly supportive of plan 6 which was signed today. He expresses the compliments of the leadership of you, Governor Babbitt, and the Arizona water leaders and citizens, as well as the legislature for their outstanding work. We are glad that Senator Goldwater is in good health and will be back with us shortly.

Mayor Goddard?

FUNDING REQUEST

Mayor GODDARD. Thank you, Mr. Chairman.

Mr. Chairman, Senator Mattingly, Mr. Rhodes, my name is Terry Goddard. I am the mayor of the city of Phoenix. I am pleased to have heard all Governor Babbitt just stated and to express my city's active support for the Central Arizona Project funding included in President Reagan's budget request.

The President's budget request recognizes the new relationship between the United States and the Central Arizona Project beneficiaries and the relationship as memorialized in the cost-sharing agreement between the United States and the 11 Arizona parties, which will make available—and apparently the numbers vary, but my figure is $373 million in local cost-sharing of this project between September 1986 and 1995.

Phoenix is one of five cities in central Arizona which are signing that agreement. During the next 9 years, the city of Phoenix will contribute over $33 million to assure completion of the Central Arizona Project. In addition, Phoenix water customers will contribute over $140 million over the life of the project toward repayment of the Central Arizona Project as provided by law. We recognize the wisdom of local participation and appreciate the leadership, the support of the Congress and the administration to develop a fair cost-sharing agreement.

Central Arizona cities have repeatedly affirmed the high priority of the Central Arizona Project by our political and financial commitment. I ask this committee to support the President's appropriation request.

Thank you, Mr. Chairman.

Senator DECONCINI. Thank you.

Mr. Linder, do you have a statement to make?

Mr. LINDER. No, sir.

INDIAN WATER RIGHTS ISSUE

Senator DECONCINI. Governor, let me just touch quickly on a couple of items.

I believe you mentioned the Fort McDowell Indians in your statement. As you know, the Indian tribes testified before this subcommittee yesterday opposing the funding for plan 6 until water settlements for these two tribes can be negotiated.

I know from talking with those tribes that they wrestled with that in their leadership, for, I believe, they are interested in the completion of the Central Arizona Project, and I guess they had their backs up against the wall from their position.

I really regret that they took that position in opposing plan 6, but I can appreciate their need to continue negotiating.

Since your office has been involved in these negotiations, can you tell the committee where the negotiation stand and whether or not you feel we can reach some accommodation on these water settlements in the next few months?

Governor BABBITT. Senator, I think it is important that we bend every effort to get this issue resolved. We have been in touch with both parties, with all parties in the negotiation. I believe that the negotiations with the Salt River Indian Tribe are really progressing quite well with an expression of concern from the Congress and the Interior Department that we are within reach.

The discussions of the Fort McDowell Indian community, I think, could be characterized as finding the parties a lot farther apart. But once again, I think we must remember—the Secretary, the Congress, and all the parties involved, that this is not a private dispute which they are at leisure to settle on their own. These issues are vested with an enormous overriding public interest. The Secretary's words today, I thought, were right on the mark that the settlement of these issues is inevitably tied up with the implementation of plan 6.

I would disagree with the two tribes only on their contention that somehow, they have to be settled before this year's appropriation can go forward. I don't think that is correct.

But I accept their notion that they will be back here every year and that we cannot let much more time go by.

LEGAL STATUS OF WATER RIGHTS CLAIMS

Senator DECONCINI. Thank you, Governor.

I understand that water adjudication proceedings for the Gila River and its tributaries are now underway at the State level. Can you tell the committee what progress is being made on adjudication of these water rights?

Governor BABBITT. Senator, I think adjudications are now underway. There is a comprehensive adjudication on all of the Gila River. There was some initial skirmishing in the litigation about whether or not Federal reserved rights claims could be subject to the jurisdiction in the State court.

This is the old Winter's problem. The Federal courts have given us a clear instruction that the adjudication can be comprehensive; that the Indian claims are and properly should be included in that adjudication, subject to review by the Federal appellate courts.

I believe that that adjudication is on track and that it will clarify a lot of very important issues and put them to rest.

Senator DECONCINI. What kind of time schedule do you think we are talking about, or do you care to speculate?

Governor BABBITT. Senator, Mr. Linder, the expert and the realist, just whispered in my ear 10 to 15 years.

Senator DECONCINI. That is a long time.

Governor BABBITT. You are a lawyer, and I would invite you to take exception. I guess I am an optimist, and I would say 8 to 10 years.

ARIZONA GROUND WATER RECHARGE ACTIVITIES

Senator DECONCINI. Governor, I have a couple more questions. For fiscal year 1986, the Congress provided full funding for continued work on the High Plains Gound Water Recharge Program. I know that Arizona has a great interest in gound water recharge, and I wonder if you can bring the committee up to date on the efforts that are being made at the State level to develop the gound water recharge potential.

Governor BABBITT. Senator, I am glad you raised that. I should have covered that in my testimony. This issue of recharge is another one of the innovations that I would put in this bundle with water management, cost sharing, Indian claims and the changes that are taking place in Federal-State water management.

The recharge issue is simply this: We have, after all these years of building lakes above ground, have begun to recognize that we can build lakes below ground by simply putting the water back in where we took it out in the first place. The urgency of this issue is, because of the weather patterns of the last decade, there will be sustained excess water in the Colorado River basin for the balance of this century.

I think it is fair to predict that it won't last beyond that. It never does. But the question that has been posed is: Can we take some of that excess CAP water, or more accurately, Colorado River water, bring it into Phoenix and recharge it directly into the ground?

Mayor Goddard and the others have been especially insistent about the importance of getting on with this. There is a water recharge bill in the Arizona legislature right now. I believe that it is likely to pass, and I think that the expression of concern on your part about it will encourage us to go back and get that done. It clearly has to be done.

Senator DECONCINI. Do you think it will be possible to use CAP water in the early years for gound water recharge?

Governor BABBITT. That is the idea that the mayors have come forward with. It is not obvious. The first thing we have to do is pay the Federal Government for the water, and then you have got to stack on top of that the recharge costs. Now, if you are paying $50 an acre-foot and then give me a figure for recharge costs of $20 an acre foot, $20 or $30 an acre-foot, you have got to look reality in the face.

My hope is we will get that recharge bill passed and we will get started on demonstrating the technology, and at least get underway.

BALD EAGLE CONSERVATION ACTIVITIES

Senator DECONCINI. Finally, the bald eagle keeps flying around in Arizona, thank goodness. I don't know what we would do without the bald eagle, for many reasons. I am advised that the State legislature recently appropriated $2 million for the Bald Eagle Habitat Management Program. I commend you and your leadership, Governor, in this area and wonder if you might explain the program and give us an idea of what you hope to gain from this conservation effort.

Governor BABBITT. Senator, this idea came up in a decision some months ago with Mr. Atwater, then working on behalf of the Secretary, and the idea was simply this: that with the plans for Cliff Dam it would be in the public interest for the Arizona legislature to put up, unconditionally, $2 million for riparian acquisition upstream on the Verde River.

There are a lot of problems up in the Verde Valley of urbanization, and much of that incredible cottonwood forest that is sort of a green ribbon in the desert is threatened and being destroyed. Obviously, it is prime avian and wildlife habitat. I think it is a splendid idea.

The legislature has appropriated the money. The acquisition program will now go forward in the area around cottonwood, Camp Verde, and I view it as simply a demonstration that Arizonans are not only dam builders, we are also conservationists. It ought to be possible to do both.

Senator DECONCINI. I agree with you, and I thank you for that leadership. I think that is important. Though modest in amount, I think the principle is important.

Thank you, Governor, thank you, Mayor, and thank you, Mr. Linder.

Governor BABBITT. Gentlemen, thank you very much.

Mr. RHODES. Thank you, Senator.

Senator DECONCINI. Yes, sir.

STATEMENT OF GERALD ZIMMERMAN, EXECUTIVE DIRECTOR, UPPER COLORADO RIVER COMMISSION

Senator DECONCINI. As the next witness, we will have Mr. Gerald Zimmerman, executive director of the Upper Colorado River Commission.

Mr. Zimmerman, if you are here?

Mr. Zimmerman, your full statement will be printed in the record. If you would summarize it for the committee, please, we would appreciate it.

Mr. ZIMMERMAN. Thank you, Mr. Chairman. I just have a few things that i would like to say to the committee.

The Upper Colorado River Commission is an interstate compact administrative agency created by the Upper Colorado River Basin Compact of 1948. The member States of the Upper Colorado River Commission are Colorado, New Mexico, Utah, and Wyoming. Each of those States will provide testimony before this subcommittee concerning the appropriations for fiscal year 1987.

I would say that each of those statements will support the specific requests made in the President's fiscal year 1987 budget. We are reluctantly accepting a reduction in the funding for the fiscal year 1987 ongoing program. However, we would request that the committee not reduce those funds any further.

Concerning the Animas-La Plata participating project, I would request that the resolution passed by Upper Colorado River Commission during its April 2, 1986, regular meeting be included in the record of this committee.

In addition to the request for the Colorado River storage and participating project funding for fiscal year 1987, I would report that the seven Colorado River basin States do support the Colorado River Salinity Control Program described in Public Law 98-569 and the funding for those projects will be included in the executive director's statement for the Salinity Control Board.

Mr. Chairman, on behalf of the Upper Colorado River Commission, I want to thank you for the opportunity to provide this statement before this subcommittee and request that the statement, as well as the attached resolution, be included in the record of these hearings.

Senator DECONCINI. Without objection, they will so appear in the record. Thank you, Mr. Zimmerman, very much. We appreciate your testimony.

[The statement and resolution follows:]

STATEMENT OF THE UPPER COLORADO RIVER COMMISSION

Summary of Specific Action Requested

Appropriation of funds recommended by the representatives of the States of Colorado, New Mexico, Utah, and Wyoming for the Colorado River Storage Project and participating projects.

Mr. Chairman, the Upper Colorado River Commission is an interstate compact administrative agency created by the Upper Colorado River Basin Compact of 1948. The member States of the Upper Colorado River Commission are: Colorado, New Mexico, Utah, and Wyoming. Since its inception, the Commission has actively participated in the development, utilization, and conservation of the water resources of the Colorado River Basin.

The member States of the Upper Colorado River Commission have always given strong support to water resources development in the Upper Colorado River Basin and in particular to the Colorado River Storage Project and participating projects. We who are interested in water resources development in the Basin appreciate the opportunity to provide testimony before this subcommittee in support of the appropriation of funds to continue the construction and operation of the Colorado River Storage Project and participating projects in Fiscal Year 1987.

Representatives of each of the Commission's member States will submit testimony to this subcommittee in support of specific appropriation requests that reflect the official position of each State with respect to the development of the water resource projects and programs in the Upper Colorado River Basin. Such specific requests will not be repeated here; however, they are fully supported by the Commission. As you will note, the States' requested funding for the Fiscal Year 1987 ongoing program for the Colorado River Storage Project and participating projects is consistent with the proposed President's Budget for the Bureau of Reclamation. This year, we are willing to reluctantly accept this reduced funding in the ongoing program to help reduce the Federal deficit. However, the Commission is opposed to and will resist any further reduction in the proposed funding for these projects. Through these requested appropriations, water resource projects and programs within the Upper Colorado River Basin can be funded at a level which will benefit the local, regional, and national economies.

As concerns the Animas-La Plata Participating Project, during its Adjourned Regular Meeting held on April 2, 1986 the Upper Colorado River Commission adopted a Resolution which strongly urges the Secretary of the Department of the Interior to: (1) approve the non-Federal up-front/cost sharing proposal which has been agreed to in principle by the State of Colorado, the two Indian tribes, and the five Colorado water conservancy and conservation districts involved in the Project, and (2) enter into the required contract by the June 30, 1986 congressionally established deadline. A copy of that resolution has been attached to this statement, and I would request that it be included in the record of these hearings.

In addition to the above-stated support for the Colorado River Storage Project and participating projects for Fiscal Year 1987, the Upper Colorado River Commission supports the development and implementation of the Colorado River Salinity Control Program described in Public Law 93-320, as amended by Public Law 98-569. This salinity program, designed to maintain salinity levels in the Colorado River system within established water quality standards, is endorsed by the seven Colorado River Basin States and is essential to the overall development and management of the Colorado River Basin. A more detailed statement regarding the specific funding for the salinity program will be presented in the testimony of the Colorado River Basin Salinity Control Forum.

Mr. Chairman, on behalf of the Upper Colorado River Commission, thank you for the opportunity to present this statement for the Committee's consideration.

RESOLUTION
of
UPPER COLORADO RIVER COMMISSION

Re: Construction of Animas-La Plata Participating Project

WHEREAS, the Animas-La Plata Project is a participating project of the Colorado River Storage Project; and

WHEREAS, the Secretary of the Interior was directed "to proceed as nearly as practicable with the construction of the Animas-La Plata [Project] . . . concurrently with the construction of the Central Arizona Project to the end that such project shall be completed not later than the date of the first delivery of water from said Central Arizona Project . . . ."; and

WHEREAS, the first delivery of water to the Central Arizona Project has already been made but construction has not yet started on the Animas-La Plata Project; and

WHEREAS, in 1985 the United States Congress appropriated $1 million for a construction start on the Animas-La Plata Project contingent upon non-federal interests entering into a reasonable up-front financing/cost-sharing agreement with the Secretary of the Interior by June 30, 1986; and

WHEREAS, the United States Departments of the Interior and of Justice subsequently required that an up-front financing/cost-sharing arrangement for the project be taken up as a part of the settlement negotiations which the State of Colorado had initiated with the Ute Mountain Ute and Southern Ute Indian Tribes concerning the tribes' reserved water rights claims in Colorado; and

WHEREAS, an "Agreement in Principle on the Settlement of Colorado Ute Tribes Reserved Water Rights" was entered into on March 14, 1986, by the State of Colorado, the two tribes, and five Colorado water conservancy and conservation districts, which Agreement includes a non-federal up-front financing/cost-sharing proposal; and

WHEREAS, the said proposal is responsive in all regards to the parameters for non-federal financing and cost-sharing set forth in President Reagan's January 24, 1984, letter to Senator Paul Laxalt and meets or exceeds the percentage contributions required of non-federal interests for other federal water resources projects and Indian reserved water rights settlements:

NOW, THEREFORE, BE IT RESOLVED by the Upper Colorado River Commission that it strongly urges the Secretary of the Interior to approve the said proposal and enter into the required contract by June 30, 1986;

BE IT FURTHER RESOLVED that the Commission directs its Secretary to forward a certified copy of this resolution to the Secretary of the Interior, the congressional delegations of the Upper Division States, and such other Federal and State officials as he deems appropriate.

CERTIFICATE

I, GERALD R. ZIMMERMAN, Executive Director and Secretary of the Upper Colorado River Commission, do hereby certify that the above Resolution was adopted by the Upper Colorado River Commission at an Adjourned Regular Meeting held in Salt Lake City, Utah on April 2, 1986.

WITNESS my hand this 3rd day of April, 1986.

Gerald R. Zimmerman
GERALD R. ZIMMERMAN
Executive Director and Secretary

STAGECOACH LOAN PROJECT, COLORADO

STATEMENTS OF:

JOHN FLETCHER, UPPER YAMPA WATER CONSERVANCY DISTRICT
CONGRESSMAN RAYMOND KOGOVSEK
MICHAEL OCCHIATO, UPPER YAMPA WATER DISTRICT

Senator DECONCINI. Next, we will hear from the Upper Yampa Water Conservancy District, Mr. John Fletcher, and I understand Congressman Kogovsek is also here. Congressman, if you would join us, and anybody else. Your full statement will be printed in the record in full. If you would please summarize, we will appreciate it.

Mr. KOGOVSEK. Mr. Chairman, thank you. It is good to be here. Today, I would like to introduce to you Mr. John Fletcher from the Upper Yampa Water District. Mr. Michael Occhiato has a short statement he would like to read in regards to the Fountain Creek project in Pueblo, CO. At this time, I would turn the microphone over to Mr. John Fletcher from the Upper Yampa District.

Senator DECONCINI. Thank you, Congressman.

Mr. FLETCHER. Thank you.

My name is John Fletcher. My son and I and our wives own and operate a cattle ranch on the Elk River, 20 miles north of Steamboat Springs. We are the applicant for a loan and grant under the Small Reclamation Projects Act for the Stagecoach Resevoir, which is about 17 miles south of Steamboat on the Yampa River.

I was glad to hear that it looks like Arizona and Utah are going to be well taken care of today. I hope there is a little left for Colorado. This is a small project.

Senator DECONCINI. I can assure you we will do the best we can for Colorado. It is a great State and deserves the consideration of other States.

Mr. FLETCHER. Thank you. We ranchers know what it is to run out of irrigation water. In early July when we were trying to make our hay crop, in our part of the country, as you probably know, it takes 2 tons of hay to get a cow through the winter.

In the drought year of 1977, some of the ranchers didn't put up a single bale of hay, and they had to sell down their herds. As Congressmen Les Aspin so eloquently said, the only way to have water during the dry months is to store the spring runoff.

Stagecoach Reservoir will do just that, providing 4,000 acre-feet for hay production and irrigated pastures, as well as supplying 800 kilowatts of hydropower and 11,000 acre-feet of water for growing industries and population along the river. In addition, as a consequence, the reservoir will provide a needed recreation site that will boost the area's economy which falls flat on its face when the ski area closes.

The economy of northwest Colorado depends on three industries: mining, agriculture, and recreation. At the present time, recreation is the predominant industry in the area. And as you all know, agriculture and mining are in a depressed state.

This undertaking will give northwest Colorado much-needed help, creating an asset of lasting value for our country and providing job opportunities for our growing population. Total project cost is $16.4 million, of which the State of Colorado is putting up $6 million on a long-term loan and our relatively small district is putting up $2.4 million, making a total of $8.4 million. This represents over 50 percent in non-Federal funding.

If you would approve $100,000 of our $8 million loan application, under the Bureau, under the Small Reclamation Projects Act, this might give the incentive to the Colorado Water Conservation Board that administrates the State loan to release a portion of their funds so that we could get started this summer.

Our small district has spent $1.3 million of our money to get to a point where we could break ground in August of this year. With engineering virtually complete, we are ready to bid construction of the dam in June. This would save us a year and a bundle of money, because there are many contractors in our area right now that would come in with very competitive bids.

The final draft of the EIS has been published by the Bureau with the public review period having expired yesterday. Mitigation of environmental impacts of the project have been addressed to the satisfaction of the Colorado Division of Wildlife; the Federal Fish and Wildlife Service, and the EPA. We do not anticipate a problem with our 404 permit.

If you approve at least $100,000, I am confident I can convince the State to turn loose their funds so we can get started this summer. That concludes my statement.

Senator DeConcini. Thank you very much. I hope you are aware, I am very sympathetic as one member of this committee. I am advised that this is a loan project and that the appropriations ceiling has been reached. In order to even appropriate the $100,000, we have to pass an authorization bill that is pending now before the Energy Committee.

I can't give you any idea how that is going along. I can tell you that this Senator would support it. I know this type of program and I think your statement is well founded. It certainly is a program that makes good sense and demonstrates the great commitment of the State and local government. I hope there is a way to do something about it.

Mr. KOGOVSEK. Mr. Chairman, that bill will be through both the House and the Senate, and I am an optimist, and I think we are going to see some kind of ceiling increase.

Senator DECONCINI. That would certainly enhance the ability of this committee to do some minimum funding.

Mr. KOGOVSEK. At this time, I would like to introduce to you the chairman of the city council from Pueblo, CO, for a short statement in regard to the Fountain Creek project.

Mr. Chairman, that is very important to the city of Pueblo as far as that is concerned.

Senator DECONCINI. Very good.

FOUNTAIN CREEK, CO

Mr. OCCHIATO. Mr. Chairman, members of the committee, my name is Mike Occhiato. I am president of the Pueblo City Council speaking in behalf of the city council and the citizens of Pueblo, CO. We wish to thank you for this opportunity to present our case before you.

The city of Pueblo is located at the junction of the Arkansas River and Fountain Creek. The Fountain Creek flows south through the northeast section of Pueblo. Pueblo is a city located approximately 30 miles south of Colorado Springs and about 100 miles south of Denver. Unlike our immediate neighbor to the north, Colorado Springs, whose growth has exceeded 257 percent since 1960, Pueblo has not enjoyed the infusion of government activity to support that growth.

We have lost over 10,000 jobs since 1960 due to the softness of the American steel industry and the scaling back of the Army depot. Our unemployment rate remains at 12.5 percent compared to a State average of 6 percent.

Fountain Creek originates at the base of Pike's Peak in Colorado Springs and has many other tributaries, including Monument Creek, located between Colorado Springs and Denver. Historical flooding of the Fountain Creek has been recorded since 1855, the most recent in 1965.

The drainage basin area contributing to Fountain Creek above Pueblo is approximately 926 square miles.

The impact intensifies as more land is developed to the north. There are a considerable number of homes in a residential area adjacent to the creek. In the 1965 food, the city suffered, with 53 city blocks inundated with up to 8 feet of water depth, affecting 59 businesses and over 370 residences.

When another flood occurs, the impact will be borne by 721 low- and moderate-income families located adjacent to and east of Fountain Creek.

In addition, 682 commercial and industrial structures will be affected. This includes our entire downtown area, the core of our city, which includes our city government buildings.

Mr. OCCHIATO. Both of our regional hospitals are located west of the Fountain, with major bridges affected. In the proposed project area, emergency medical care would be hindered.

Directly to the west and adjacent to Fountain Creek is Interstate 25, a major highway which originates in El Paso, TX, and ends in the State of Montana. This highway separates the core of the downtown from the Fountain. When another major flood occurs, this highway will incur severe and costly damage. U.S. Highway 50 crossing is at the north section of the proposed project.

In addition, the Atchison, Topeka and Santa Fe Railway is directly west of the Fountain between the Fountain and Interstate 25. During flood stage, the tops of the rails will be overtopped by flood waters. The Missouri-Pacific Railroad bridge is another structure which faces flood damage. Consequently, without the proper flood control, the city would face paralysis hindering car, truck, and rail transportation serving Pueblo and cities north and south of Pueblo.

The most severe impact is the many low-income families whose entire earnings are invested in their homes within the flood plain area.

Without flood protection, potential development is faced with increased construction costs and higher insurance rates. Development is needed to keep our core city alive and the community financially healthy. In 1965, after the last major flood, and for the past 21 years since then, the city of Pueblo has sought assistance to prevent another occurrence. The city has initiated flood damage prevention measures which, in part, has consisted of improvement in the Fountain Creek channel.

Since 1972 through 1985, the city, through governmental and private assistance, has acquired property and made improvements worth over $1,050,000. Of this, $787,624 has been accepted as the city's contribution toward a Federal-local government project, which is expected to cost about $8 million.

For the past 21 years, we have lived with the constant threat of another flood, which will leave our core city destroyed and the many families adjacent homeless. Accepting Gramm-Rudman and fearing Roste II, coupled with an unemployment rate of 12.5 percent, we sincerely request your favorable consideration for the initial appropriation of $1.36 million to fund the desperately needed Fountain Creek project.

Again, thank you for your time and favorable consideration.

Senator DOMENICI [presiding]. Thank you very much.

As I understand it, you have completed your testimony. Is there anything further that any of you want to add for the record?

Mr. KOGOVSEK. Senator Domenici, I am former Congressman Kogovsek from Colorado. Both of the gentlemen testified on two very needed projects in Colorado. The one that Mr. Fletcher testified on was a small reclamation loan project which hinges on what happens to the small reclamation bill that is proceeding in front of the Senate and the House right now.

Mr. Fletcher spoke very eloquently on the need for that project; Mr. Occhiato on the Fountain Creek, which is a Corps of Engineers project. We appreciate your time. We appreciate your support for the small reclamation bill, in particular, and unless you have any questions, we will dismiss ourselves.

Senator DOMENICI. Thank you very much. Thank you for your kind words, and I appreciate your presence here today.

Mr. KOGOVSEK. Thank you, Senator.

[The statement follows:]

STATEMENT OF THE CITY OF PUEBLO, CO

The City of Pueblo, Colorado appreciates the opportunity to present our concerns regarding the need for the Fountain Creek Flood Control Project and why it should be funded in the Fiscal Year 1987 Budget.

After the 1965 flood, which caused $3.7 million of damage over a 53-block area of the City, the City Council and Army Corps of Engineers evaluated what needed to occur to prevent this level of destruction to 417 families and 59 businesses from happening again. Since 1968, the City of Pueblo has worked very closely with the Army Corps of Engineers to bring the Fountain Creek Flood Control Project to fruition. The City has expended over $1.8 million to purchase land and buildings within the Project boundaries. The City has also agreed to increase our contribution toward the construction of the Project from the original amount of 10% to as much as 27% of the Project cost. Basically, the point is the Pueblo City Council has done everything in their power not to be an obstacle but simply a full cooperative partner in this arrangement.

What truly concerns the City Council is that 1965 was not the first time the Fountain Creek has wrecked havoc upon the citizens of Pueblo. The Fountain Creek has overflowed its banks 8 times since 1855, or an average of one occurrence every 16.4 years. Essentially, it is our opinion that with the financial stakes even higher than they were in 1965, with 721 residents (mostly elderly and low-income families) and 682 commercial structures located within the 100-year flood plain area, that we are playing a game similar to "Russian Roulette". If a flood were to occur today, it is estimated that over $60 million of damage would result from a 100-year flood.

You are probably asking, if there would be that much damage, why doesn't the community proceed with the $7.8 million Project on its own? First and foremost, the problem does not emulate from Pueblo but starts in the Colorado Springs area where the rapid development of El Paso County has exacerbated the problems of earlier years. Other answers are that Pueblo is still experiencing a 12% unemployment rate; the City is receiving less in revenues from local sources and the people that would be impacted by a flood are elderly and low and moderate-income families unable to face such a financial blow. We, too, recognize the issues you are facing to resolve the Federal budgetary problems. However, this has been a long-standing City/Federal partnership that should be brought to a close.

Attached, for your information, is a fact sheet that offers a quick synopsis of the Fountain Creek Project. We hope you will look favorably upon our Project by funding it in the 1986 Fiscal Year Budget.

FOUNTAIN CREEK FLOOD CONTROL PROJECT

HISTORICAL FLOODS have been recorded on Fountain Creek with the general Pueblo area in 1855, 1864, 1893, 1894, 1904, 1921, 1935 and 1965.

HIGHEST TEN RECORDED FLOWS IN ORDER OF MAGNITUDE:

ORDER NUMBER	DATE	STATE (FT.)	PEAK DISCHARGE (cfs)
1	6/17/65	19.0	47,000
2	5/30/35	?	35,000
3	6/4/21	?	34,000
4	7/10/45	9.5	17,800
5	8/26/46	9.0	16,500
6	8/4/44	8.5	12,900
7	10/3/23	5.8	12,000
8	10/23/46	8.0	11,800
9	7/30/51	7.9	11,600
10	8/6/55	7.9	11,500

AVERAGE DISCHARGE: 1979-1984 - 130 cfs

ESTIMATED 100-YEAR FLOW: 64,000 cfs

VELOCITY OF WATER DURING FLOOD: 22-26 feet per second in main channel, 6-9 feet per second outside of main channel. Velocities greater than 3 feet per second with depths greater than 3 feet are considered hazardous.

FLOODING SEASON: Late spring and summer

DRAINAGE AREA: Contributing to Fountain Creek above Pueblo approximately 926 square miles.

RECORDED FLOOD DAMAGE: 1965 flood - $3,700,000, 53 city blocks inundated up to 8 feet depth, 370 residences and 59 buinesses damaged - 417 families affected ($7,992,000 in today's dollars).

NUMBER OF RESIDENTIAL STRUCTURES WITHIN 100-YEAR FLOOD PLAIN: 721

NUMBER OF COMMERCIAL STRUCTURES WITHIN 100-YEAR FLOOD PLAIN: 682

PROPOSED CORPS OF ENGINEERS PROJECT:

LEVEL OF PROTECTION	200-year flood (85,000 cfs)
PROJECT COST	$7,792,000 (1984 estimate)
ESTIMATED AVERAGE ANNUAL BENEFIT (DAMAGE PREVENTED)	$746,200 per year
ESTIMATED AVERAGE ANNUAL COST	$741,800 per year
BENEFIT/COST RATIO	1.15:1

ADDITIONAL EFFECTS OF 100-YEAR FLOOD WITHOUT PROPOSED PROJECT:

1. Eighth and Fourth Streets would be impassable. These are the most direct routes to hospitals on the west side of the river. Emergency response would be delayed.

2. I-25 would become inundated.

STATEMENT OF WILLIAM McDONALD, DIRECTOR, COLORADO WATER CONSERVATION BOARD

ACCOMPANIED BY:
CHRIS BAKER, CHAIRMAN, SOUTHERN UTE TRIBAL COUNCIL
ERNEST HOUSE, CHAIRMAN, UTE MOUNTAIN UTE COUNCIL
FRED KROEGER, CHAIRMAN, SOUTHWEST COLORADO WATER CONSERVATION DISTRICT
JOHN MURPHY, CHAIRMAN, ANIMAS-LA PLATA WATER CONSERVANCY DISTRICT
JOHN PORTER, MANAGER, DOLORES WATER CONSERVANCY DISTRICT
TOM TAYLOR, MAYOR, FARMINGTON, NM

Senator DOMENICI. Let me see if we can get the next group of witnesses by asking Mr. William McDonald of the Colorado Water Conservation Board to take the witness chair, along with those related to the Dolores and Animas-La Plata projects—that is representatives of the Southwestern Water Conservation District, the Ute Indian Tribe, and the Animas-La Plata Water Conservation District. Would all of you come to the witness table with Mr. McDonald.

Since we don't know all of the witnesses on this panel, perhaps you could help the committee by identifying yourselves for the record.

Mr. McDONALD. Mr. Chairman, thank you.

I am Bill McDonald, director of the Colorado Water Conservation Board. With me today, starting on my left, is Chris Baker, president of the Southern Ute Tribal Council; John Porter, manager of the Dolores Water Conservancy District; Ernest House, chairman of the Ute Mountain Ute Council, and then on my right, Mr. Fred Kroeger, who is chairman of the Southwestern Colorado Water Conservation District.

Next, to my right, Mr. John Murphy, chairman of the Animas-La Plata Conservation District, and on my far right, Mr. Tom Taylor, who is the mayor of the city of Farmington, NM. I also send greetings from none other than Steve Reynolds, who regrets he can't be with us today, Senator.

PREPARED STATEMENT OF SENATOR ARMSTRONG

Senator DOMENICI. Right. Thank you very much for being here. We welcome you here, Mayor Taylor. Good to have you.

First, let us make part of the record, at the request of Senators Armstrong and myself, a statement from Senator Armstrong, and a letter dated March 18 directed to the Secretary of the Interior related to the Animas-La Plata project, wherein Senators Bingaman and Hart, and a total of 13 Members of Congress from the area have joined, including the Congressman from the State of Colorado and New Mexico, request that the Secretary approve the cost-sharing proposal on the Animas-La Plata project. That letter will be made a part of the record.

[The information follows:]

STATEMENT OF SENATOR ARMSTRONG

It is my understanding that you are holding hearings this week on appropriations for Energy and Water Development. As you will recall, last year Congress appropriated $1 million for a construction start of the Animas La Plata project, conditioned upon the Department of the Interior and the state and local interests reaching a "reasonable" cost share agreement. A few weeks ago, the Colorado and New Mexico Congressional delegations were delighted to transmit to the Department of the Interior, what we believe to be a reasonable cost share proposal worked out over the last few months by the affected parties. I would greatly appreciate if you would include that letter of transmittal and the proposal in the Committee's hearing record for interested parties to review.

The mere fact that the varied and diverse interests in both states reached such an agreement in the time it has is a statement of the overwhelming interest in constructing this project, as well as, the level of concern over the pressing problems facing the states without resolution of the Indian water claims and other water associated problems that this project would resolve.

The proposal offers a cost share proposal for non-federal interests of about $238 million, $171 million of that would be up-front financing. The agreement also would quantify and satisfy once and for all the reserved water right claims of the two Ute Indian Tribes. This is a revolutionary cost share proposal for a Bureau of Reclamation project of this size, and it fits well within the Committee's intent of a "reasonable" cost share agreement. The states are making a generous offer, considering the promises made to Colorado and New Mexico to construct this project in 1968 and that other projects built under the same law, specifically the Central Arizona Project, were never expected to contribute so much of the construction cost...let alone up-front financing.

As further representation of the good faith of the states, the Legislature of the State of Colorado has recently appropriated $6 million to be spent according to the proposed cost share agreement to build the domestic water pipeline to the Ute Mountain Ute city of Towoac.

Mark, I greatly appreciate the help you have given me in the past on this issue, and I am very hopeful that this proposal represents a definitive resolution to this long standing issue.

LETTER FROM SENATORS ARMSTRONG, DOMENICI, AND HART ET AL.

March 18, 1986

The Honorable Donald Hodel
Secretary
Department of Interior
C Street between 18th and 19th Streets, N.W.
Washington, D.C. 20240

Dear Mr. Secretary:

Enclosed is a document titled "Settlement of Ute Indian Tribes Reserved Water Rights--An Agreement In Principle." This agreement has been executed by the Governor and Attorney General of the State of Colorado, officers of the Ute Mountain Ute and Southern Ute Indian Tribes, and the five directly concerned water organizations of southwest Colorado. The agreement constitutes a comprehensive settlement of the pending claims filed on behalf of the Indians in Colorado water court for far reaching Federal _Winters_ water rights claims on virtually all of the streams in southwestern Colorado .

The Animas-La Plata Project is an indispensable and integral part of the _Winters_ reserved water rights settlement outlined in the attached document. The Congress in 1968 directed the Secretary of the Interior to construct that project following deliberations and agreement among the Colorado River Basin States that resulted in support for the Central Arizona Project, which is now being completed. The Animas-La Plata and other projects are integral parts of that agreement to protect the long-term water interests of the upper basin states. The Animas-La Plata Project is necessary to effectuate the negotiated settlement in order to avoid serious adverse consequences to both the two Indian Tribes and the non-Indian water users in the area.

Both New Mexico and Colorado also have a vital interest in the construction of the Animas-La Plata Project for the benefit of their non-Indian citizens. Three New Mexico cities and other water users of San Juan County will receive crucial municipal and industrial water supplies from the project and New Mexico irrigators will also receive project water. Likewise, non-Indians in Colorado will receive both municipal and industrial and agricultural irrigation water supplies which are of vital importance to the economic welfare of southwestern Colorado.

In the 1985 Supplemental Appropriation Act, the Congress charged Colorado and New Mexico with the responsibility for entering into a reasonable cost-sharing and financing agreement with the Secretary of the Interior as a condition for an appropriation for the start of construction on the Animas-La Plata Project. The Departments of the Interior and of Justice insisted that cost sharing on the Animas-La Plata Project by non-Federal entities be an interrelated part of the Indian _Winters_ water rights settlement negotiations. During those negotiations it appeared that an impasse was developing between the United States and the non-Federal parties with respect to cost sharing. Because the settlement of the Indians' Winters water rights claim was of such great importance to the United States and the non-Federal entities, the non-Federal participants proceeded with the development of a comprehensive proposal on cost sharing to constitute a central core of an overall Winters water rights settlement.

The enclosed agreement is the culmination of those complex, intensive negotiations. It achieves a final and comprehensive settlement of the Winters water rights claims of the two Tribes, resolution of breach of trust claims of the Tribes against the United States, and a sharing of costs of the Dolores and Animas-La Plata Projects.

In spite of the fact that the Animas-La Plata Project should have been constructed entirely with Federal funds under Congress' original authorization, the two States have compiled a cost-sharing/financing proposal that is reasonable. It is within their capacity to execute. It is unique and innovative to conform to the unique conditions inherent in the Indians' water rights settlement and the construction of the project to effectuate it. It is equitable because it fulfills the trust responsibilities of the Federal government to the two Tribes. It will save the Federal government many millions of dollars in litigation costs. This agreement will avoid payment by the Federal government of multi-millions of dollars in damage claims to both Indians and non-Indians in southwest Colorado in the event litigation were to be decided against the Federal government. An adverse court settlement is a strong probability according to many attorneys who cite experience in other lawsuits on similar issues.

The attainment of the enclosed Agreement in Principle is little short of miraculous when the diverse interests of the various negotiating parties are considered. The settlement of the Indians' Winters water rights by the process described in the agreement, when compared with the settlement of similar claims in other parts of the nation, appears quite favorable to the Federal government when the equivalent of up-front financing, the contribution of funds during the construction period, and the reduction in costs due to eliminations of certain project features as Federal responsibilities are factored into the equation. It is highly improbable that the Federal government will ever again be able to settle Winters reserved water rights in southwest Colorado on such favorable terms and without destroying the excellent relationships now existing among the Indian and non-Indian citizenry.

We endorse and strongly support the Indian water rights settlement/Animas-La Plata Project cost-sharing arrangements described in the accompanying Agreement in Principle. We urge the Administration to do the same. We request an early reply in order that a formal contract may be executed well before June 30, 1986, between the Secretary and the requisite non-federal parties, for the financing and construction of the Animas-La Plata Project. We commend the state, tribal and local leaders who have worked so diligently in a spirit of fairness and equity to produce an agreement of such historic proportions. The Administration has an opportunity to respond positively to secure these hard-won gains and lay the foundation for amicably settling disputes that have persisted for generations.

Sincerely,

William L. Armstrong

Pete V. Domenici

Gary Hart

Jeff Bingaman

Ken Kramer

Manuel Lujan, Jr.

Michael L. Strang

Joe Skeen

Hank Brown

Bill Richardson

Timothy E. Wirth

Dan Schaefer

Patricia Schroeder

SETTLEMENT OF COLORADO UTE INDIAN TRIBES RESERVED WATER RIGHTS

AN AGREEMENT IN PRINCIPLE ENTERED INTO THE 14TH DAY OF MARCH 1986

By

STATE OF COLORADO
UTE MOUNTAIN UTE INDIAN TRIBE
SOUTHERN UTE INDIAN TRIBE
ANIMAS-LA PLATA WATER CONSERVANCY DISTRICT
DOLORES WATER CONSERVANCY DISTRICT
FLORIDA WATER CONSERVANCY DISTRICT
MANCOS WATER CONSERVANCY DISTRICT
SOUTHWESTERN WATER CONSERVANCY DISTRICT

I. INTRODUCTION TO AGREEMENT

Congress initially created a Ute Indian Reservation in the southwestern part of the Colorado Territory in 1868. With the reservation of land, Congress also reserved a quantity of water sufficient to meet the present and future needs of the Indian Tribes. The Indian and non-Indian residents of southwestern Colorado and northwestern New Mexico have struggled since that time to resolve and quantify conflicting Federal and State claims to those waters.

In 1968 Congress authorized the construction of the Dolores and Animas-La Plata water storage projects. These projects were authorized to resolve a century of conflict between Federal and State claims and to help assure Colorado and New Mexico the use of the waters of the Colorado River System apportioned to them by the Colorado River Compact and the Upper Colorado River Basin Compact.

In 1976 the United States, as trustee of the Ute Mountain Ute and Southern Ute Indian Tribes, filed far reaching Federal Winters rights claims on virtually all of the rivers of southwestern Colorado. The claims filed by the United States were intended to quantify the water reserved for the Tribes with the creation of the reservation.

In December 1984, the Colorado Attorney General proposed that the involved parties attempt to negotiate a settlement of these claims. In April 1984, the Governor and the Attorney General convened the first meeting of the interested parties, including the United States, and set in motion the negotiating process.

In 1985 the United States Congress imposed on Colorado and New Mexico water users the responsibility of entering into a reasonable cost-sharing agreement with the Secretary of the Interior as a condition of receiving an appropriation for a construction start on the Animas-La Plata Project. The United States, through the Department of the Interior and the Department of Justice, insisted that the cost-sharing arrangements for the project be taken up as part of the Indian water rights settlement negotiations.

Throughout 1985 Federal representatives actively and fully participated in the negotiations that have led to achievement of this agreement among the non-Federal participants. Because an impasse appeared to have been reached between the United States and the non-Federal parties on the matter of cost sharing, the non-Federal participants decided to proceed with the development of a comprehensive proposal on cost sharing, to be encompassed within an overall Winters water rights settlement, for presentation to the Federal Government.

This agreement is the fruit of those efforts. It represents the culmination of 10 years of good faith effort between Indians and non-Indians to achieve a final settlement of historic Winters water rights claims, and of intensive negotiations over the past year to arrive at a reasonable cost-sharing formula as part of that settlement. It achieves a final and comprehensive settlement of the Winters water rights claims of the two Tribes, resolution of breach of trust claims of the Tribes against the United States for appropriating Indian water for its own profit, and a sharing of costs of the Dolores and Animas-La Plata Projects.

The signatory governmental entities to this agreement in principle and the many additional participating governmental and private parties, as detailed herein, have committed themselves to cost-sharing for the projects and to achieving a comprehensive settlement of pending United States Winters rights litigation. They now require the support and the assistance of the United States to complete implementation of this final settlement agreement.

II. RECITALS

1. The water rights claims of the Ute Mountain Ute Indian Tribe and the Southern Ute Indian Tribe are the subject of existing and prospective lawsuits involving numerous parties in southwestern Colorado.

2. These lawsuits not only will prove expensive and time-consuming for all participants, but also could have a profound adverse impact upon the health and development of the Indian and non-Indian economies of southwestern Colorado.

3. The parties to the lawsuits and others interested in the settlement of the water rights claims of the Southern Ute Indian Tribe and Ute Mountain Ute Indian Tribe have diligently attempted to settle these claims. The State of Colorado, the Tribes, and the participating governmental entities and private parties, by providing the assistance specified in this Agreement in Principle, have achieved a permanent settlement. It is essential that the Federal Government provide the assistance necessary to implement this agreement.

4. It is in the long-term interests of the United States, the States of Colorado and New Mexico, the Tribes, and the non-Indian communities of southwestern Colorado and northwestern New Mexico that the United States assist in the implementation of a fair and equitable settlement of the water rights claims of the Tribes.

5. In 1968, the Secretary of the Interior was directed by Congress "to proceed as nearly as practicable with the construction of the Animas-La Plata ... project concurrently with the Central Arizona Project, to the end that such project(s) shall be completed not later than the date of the first delivery of water from the Central Arizona Project." 43 U.S.C. sec. 620(a)(1). This commitment was intended by Congress to benefit water users in southwestern Colorado and northwestern New Mexico, including in particular the two Tribes. The implementation of this Agreement in Principle for a permanent Indian water rights settlement, which is dependent upon the timely construction of the Animas-La Plata Project, will furnish the avenue for honoring that commitment.

6. The Secretary of the Interior's failure to fulfill the special duty to the Ute Indian Tribes created by the 1968 mandate to construct the Animas-La Plata Project concurrently with the Central Arizona Project may constitute a violation of the Federal Government's trust obligations to the Tribes. The United States may also have violated its responsibilities as trustee by, inter alia, diverting substantial amounts of water from the Mancos River for the benefit of non-Indian farmers in the area and non-Indian visitors who utilize facilities in Mesa Verde National Park, causing the suppression of water development on the Ute Mountain Ute Reservation; and appropriating for its exclusive benefit income earned from the sale of power generated in part with waters claimed by the Tribes. The Tribes are prepared to prosecute these claims and others against the United States. The implementation of this Agreement in Principle among the parties will resolve not only the Tribes' water rights claims, but these potential damage claims as well.

III. DEFINITIONS

For purposes of this Agreement in Principle:

1. The term "Agreement in Principle" means this agreement entered into by the State of Colorado, the Tribes, and the named districts, which resolves as among the parties thereto all claims, controversies, and issues involved in all pending proceedings in Colorado District Court, Water Division No. 7, on the applications of the United States and the Tribes for tribal Winters doctrine reserved water rights in Colorado.

2. The term "Animas-La Plata Project" means the Animas-La Plata Project, Colorado-New Mexico, a participating project under the Colorado River Storage Project Act, 70 Stat. 105, 43 U.S.C. 620, as amended by the Colorado River Basin Project Act, 82 Stat. 885.

3. The term "Dolores Project" means the Dolores Project, Colorado, a participating project under the Colorado River Storage Project Act, 70 Stat. 105, 43 U.S.C. 620, as amended by the Colorado River Basin Project Act, 82 Stat. 885.

4. The term "net acres" means the acres actually capable of irrigation, exclusive of lands necessary for roads, buildings, or farm practices.

5. The term "participating governmental entities" includes governmental entities not signatories to this Agreement in Principle, but which have made certain commitments as specified herein to this settlement. These include: the State of New Mexico, the Colorado Water Resources and Power Development Authority, the Colorado Water Conservation Board, Montezuma County (Colorado), the City of Durango, the City of Cortez, the Town of Pagosa Springs, and San Juan County (New Mexico).

6. The term "participating private parties" includes those private parties who, while not signatories to this Agreement in Principle, have participated in the settlement of the water claims resolved herein and concur in the agreement insofar as

it affects their interests. These include: Fairfield-Pagosa, Inc., Florida Farmers Ditch Company, and Florida Canal Company.

7. The term "State" means the State of Colorado.

8. The terms "Tribe" or "Tribes" mean the Ute Mountain Ute Indian Tribe and/or the Southern Ute Indian Tribe, as the context may require.

IV. QUANTIFICATION OF TRIBAL CLAIMS

1. Ute Mountain Ute Indian Tribe

The Ute Mountain Ute Indian Tribe shall be entitled to the rights to use water as described below from the following sources:

a. Dolores Project

The Tribe shall receive an average annual supply of 22,900 acre-feet of agricultural irrigation water, 1000 acre-feet of municipal and industrial water, and 800 acre-feet of water for fish and wildlife development from the Dolores Project pursuant to contract(s) with the U.S. Bureau of Reclamation, said allocations of water to be measured at, and made available to the Tribe by the United States Bureau of Reclamation from the McPhee Dam and Reservoir. The Tribe's municipal and industrial water will be delivered to the Tribe at the City of Cortez treatment plant. The Tribe's agricultural irrigation water and fish and wildlife development water will be delivered to the Tribe at the Reservation through the combined Highline-Towaoc Canal, with the Tribe bearing its proportionate share of carriage losses. During periods of water shortage, priority of the project water physically available shall be as follows: (1) municipal and industrial commitments are to be delivered in full; (2) irrigation and other uses exclusive of downstream stream fishery releases are to share in equal percentage such shortages as may occur; and (3) stream fishery releases to the Dolores River are to be made in accordance with the operating agreement between the Dolores Water Conservancy District and the Bureau of Reclamation's Contracting Officer. The construction costs allocable to the Tribe's agricultural irrigation water allocation shall be deferred pursuant to the Leavitt Act. Reimbursable costs of the joint use facilities that are allocable to the Tribe's municipal and industrial water allocation shall be deferred, and interest shall not accrue during such deferral, pursuant to special legislation until revenue is generated from the use of such allocation. Pursuant to section 8 of the Colorado River Storage Project Act, the construction and the annual operation and maintenance costs allocable to the Tribe's allocation of water for fish and wildlife development are nonreimbursable.

b. Animas-La Plata Project

The Tribe shall receive an average annual supply of 6000 acre-feet of municipal and industrial water and 26,400 acre-feet of agricultural irrigation water from the Animas-La Plata Project pursuant to contract(s) with the United States Bureau of Reclamation, said allocations of water to be measured at, and made available to the Tribe by the United States Bureau of Reclamation from, Ridges Basin Reservoir. Pending completion of the construction of the Ute Mountain pumping plant and the laterals on the reservation, the Tribe's water will be delivered to the Tribe at Ridges Basin Reservoir. Upon completion of those facilities, the Tribe's water will be delivered to the Tribe either at Ridges Basin Reservoir or to the facilities at the Tribe's option. Shortages in project water shall be allocated among the Tribe and other Colorado users in the following fashion: municipal and industrial allocations shall first be fully satisfied and then agricultural irrigation allocations shall be satisfied with shortages shared on a pro rata basis. The construction costs allocable to the Tribe's agricultural irrigation water allocation shall be deferred pursuant to the Leavitt Act and operation and maintenance costs shall be made nonreimbursable pursuant to special legislation. Reimbursable costs allocable to the Tribe's municipal and industrial water allocation shall be deferred, and interest shall not accrue during such deferral, pursuant to special legislation until revenue is generated from the use of such allocation.

c. Other sources

The Tribe shall be entitled to:

i. A reserved water right for the diversion of 21,000 acre-feet per annum of water from the Mancos River for the irrigation of 7,200 acres of land. This right shall have an 1868 priority date but will be subordinated to all rights with an adjudication date prior to 1985. Delivery pursuant to this right will be at the point where the Mancos River enters the Ute Mountain Ute Indian Reservation on the south line of section 2U, T34N, R18W, N.M.P.M., at a point below the confluence of the Mancos River and Weber Canyon. The Tribe agrees to operate and maintain a gauge at this point and to allow the State access to this gauge. This water right will be for storage or direct flow purposes. As long as the water is diverted as surface flow and applied to beneficial use on tribal lands within the Mancos River drainage, no change in place of use, as described in part V.6. of this Agreement in Principle, shall be required.

ii. A direct flow reserved water right on the Navajo Wash for a maximum diversion of 4,800 acre feet per annum for 1,200 acres of land at a maximum diversion rate of 15 cfs. This right shall have an 1868 priority date but will be subordinated to all rights with an adjudication date prior to 1985, and is subject to the decree and stipulation in Case No. 81 CW 126, Water Division No. 7. The Tribe's existing state-adjudicated rights to the waters of Navajo Wash will, upon confirmation of the reserved right provided for herein, be relinquished.

iii. A direct flow reserved water right from the main stem of the San Juan River within the southwestern part of the Ute Mountain Ute Indian Reservation in Colorado. The right shall have a priority date of 1868, and be limited to a maximum diversion rate of 10 cfs and a maximum annual diversion of 1600 acre-feet for the irrigation of 640 acres.

iv. The water rights provided by this part IV.1.c. are for the following uses: irrigation, municipal, industrial, recreation, fishery, wildlife, and hydropower.

2. Southern Ute Indian Tribe

The Southern Ute Indian Tribe shall be entitled to the rights to use water as described below from the following sources:

a. Animas-La Plata Project

i. The Tribe shall receive an average annual supply of 26,500 acre feet of municipal and industrial water and 3,400 acre feet of agricultural irrigation water from the Animas-La Plata Project pursuant to contract(s) with the United States Bureau of Reclamation, said allocations of water to be measured at, and made available to the Tribe by the United States Bureau of Reclamation from, Ridges Basin Reservoir. Delivery of the Tribe's agricultural irrigation water shall be made through the Dry Side Canal with the Tribe bearing its proportionate share of carriage losses. Delivery of the Tribe's municipal and industrial water shall be made at Ridges Basin Reservoir pending completion of construction of the Southern Ute Reservoir. Shortages in project water shall be allocated among the Tribe and other Colorado users in the following fashion: municipal and industrial allocations shall first be fully satisfied and then agricultural irrigation allocations shall be satisfied with shortages shared on a pro rata basis. The construction costs allocable to the Tribe's agricultural irrigation water allocation shall be deferred pursuant to the Leavitt Act. Reimbursable costs allocable to the Tribe's municipal and industrial water allocation shall be deferred, and interest shall not accrue during such deferral, pursuant to special legislation until revenue is generated from the use of such allocation.

b. Other sources

The *Winters* rights described below are based upon the use of the water for agricultural irrigation during an irrigation season of May 1 to September 30, upon their use at the locations specified on the tribal maps provided to the State of Colorado on December 5, 1985, and upon tribal or individual Indian ownership of the land. Points of diversion will be identified by stream reach on maps to be attached to a consent decree. All parcel numbers given in the following descriptions refer to the numbers shown on the tribal maps. Copies of the tribal maps will be attached to and incorporated in the quantification of eastern tributaries water rights agreement, and will be attached to and incorporated in this agreement upon its submission to the District Court for Water Division No. 7 pursuant to the procedure described in part VII.2.

i. Florida River

The Tribe agrees to accept Florida Project water stored behind Lemon Dam in exchange for their *Winters* water rights for the lands within parcels 1, 2, and 3. The Florida Water Conservancy District agrees to allocate to the Tribe 553 acre-feet per year to these parcels. The Tribe will be responsible for paying operation and maintenance (O & M) charges assessed uniformly by the Florida Water Conservancy District on the Florida Project water but the agricultural irrigation capital costs shall be deferred. It is understood that the full project supply may not be available in dry years, and that the Tribe will share the reduced supply with the other project users. The Tribe will take its water subject to the ditch companies' and the Florida Water Conservancy District's rules or guidelines. This water may be used on parcels 1, 2, and 3 with the following restrictions:

> Parcel 1:
>
> A maximum of 134 net acres are to be served with this water, with a duty of water of 2 acre-feet per acre per year, for a maximum of 268 acre-feet per year. The flow rate of delivery is to be limited to 1 cfs per 80 acres, for a maximum of 1.68 cfs.
>
> Parcel 2:
>
> A maximum of 97 net acres are to be served with this water, with a duty of water of 2 acre-feet per acre per year, for a maximum of 194 acre-feet per year. The flow rate of delivery is to be limited to 1 cfs per 80 acres, for a maximum of 1.21 cfs.
>
> Parcel 3:
>
> A maximum of 36.1 net acres are to be irrigated with a duty of water of 2.54 acre-feet per acre per year, for a maximum of 91.7 acre-feet per year. The flow rate of delivery is to be limited to 1 cfs per 80 acres, for a maximum of 0.45 cfs.

Diversions for parcels 1 and 2 will be made at the Florida Farmers Ditch headgate. It will be the responsibility of the various Florida ditch companies serving Florida mesa lands to improve their delivery systems so that the water requested for parcels 1 and 2 under this plan may be delivered to the edge of the parcels at no cost to the Tribe for such improvements. There is no delivery agreement for water to parcel 3.

The Tribe agrees to execute contract(s) governing its participation in the project, including receipt of the 2000 acre feet of water already allocated to the Tribe, with the Florida Water Conservancy District and the United States Bureau of Reclamation prior to the entry of the consent decree.

Acreage and water for parcels 4, 5, 6, 9, 10, 11, 12, 13, and 14 will be quantified as shown in Table 1. No rights are recognized for parcels 7 and 8. Water for parcels 4, 5, and 6 will be given an appropriation date of 1868 and a January 1, 1976 priority date. Water for parcels 9, 10, 11, 12, 13, and 14 will be given a priority date of 1868 but will be subordinated to all rights with an adjudication date prior to 1976.

TABLE 1

Parcels
in the Florida Basin

Parcel	Net Acreage	Diversion Rate (cfs)	Annual Volume (acre-feet)
4	103	1.29	206
5	86	1.08	172
6	21	0.26	42
9	38	0.48	76
10	29	0.36	58
11	25	0.31	50
12	105	1.31	210
13	57	0.71	114
14	81	1.01	162
TOTAL	545	6.81	1090

For parcel 15, the parties agree that the Tribe may irrigate an additional 2.7 acres, for a total of 29 acres entitled to project water.

ii. Stollsteimer Creek

In settlement of the present disputes between the parties involving rights to use water from Stollsteimer Creek, the parties agree: (1) the Tribe shall receive an 1868 storage right for Lake Capote (Pargin Reservoir) for a total of 1850 acre-feet, with no refill; (2) The Tribe shall receive a 1986 right for one refill for 1,850 acre-feet; (3) the existing storage right for 530 acre-feet for Lake Capote will be forfeited; (4) the Carruthers Ditch right for 2 cfs held by the Tribe and currently on the abandonment list, shall be removed from the abandonment list, subordinated to all direct flow rights with an adjudication date before 1986 on Stollsteimer Creek, and shall not be subject to abandonment proceedings in the future; and (5) the Tribe retains its existing state water right in the Washington Flats direct flow right for 3.5 cfs with its existing priority of 1914 and the right shall not be subject to abandonment proceedings in the future.

The augmentation plan developed by Fairfield-Pagosa as described in Case No. W958-72, Water Division No. 7, subordinates 8.5 cfs of the Linn and Clark water right to other Stollsteimer Creek water rights, including the Washington Flats Ditch. The subordination of the Linn and Clark water right shall be maintained for the benefit of the Washington Flats Ditch direct-flow right in the event the present augmentation plan described in W958-72 is modified.

The rights described above will be used to irrigate 600 acres, which are within the 781 acres of arable land within the watershed identified on the Tribal maps.

iii. Piedra River

Table 2 describes the acreage and the attached water rights to be granted to the Tribe on the mainstem Piedra River. It is understood that the water for parcel 4 will come from the existing M. E. and M. Ditch. The maximum flow rate will be 1 cfs per 60 acres. Lands requiring pumping were given a duty of water of 2.54 acre-feet/acre, while lands that are proposed to be flood irrigated were allowed 3.0 acre-feet/acre. There is a maximum total diversion of 1595 acre-feet per year.

TABLE 2

Parcels
along the Mainstem Piedra River

Parcel	Net Acreage	Diversion Rate (cfs)	Annual Volume (acre-feet)	
1	289	4.81	867	
2	40	0.67	110	(21.9 acres pumped)
3	162	2.69	486	
4	44	0.73	132	
TOTAL	535	8.90	1595	

iv. Devil Creek

For the 61 acres being claimed, the Tribe will receive an 1868 priority date for 1 cfs of water, with a maximum diversion of 183 acre-feet per year, to be subordinated to all rights adjudicated before 1976.

v. San Juan River

The Tribe will receive an 1868 priority date for an amount of water sufficient to irrigate parcels 1, 2, 3, and 4, as shown in table 3. The duty of water will be 2.54 acre-feet per acre for lands proposed to be irrigated by pumping, and 3.0 acre-feet per acre for lands proposed to be irrigated by gravity irrigation. The maximum diversion rate shall be 1 cfs for 60 acres. The maximum diversion rate for the combined parcels shall be 8.5 cfs in July and will be limited to 4 cfs in September, and the maximum total diversion will be 1530 acre feet per year.

The water rights described below will be inclusive of that portion of the 1968 Carr Ditch right which is shared with other non-Indian users and is currently irrigating these lands. The Tribe agrees to make the necessary modifications to the Carr Ditch decree and the State agrees to support the Tribe in its efforts.

TABLE 3

Parcel	Net Acreage	Diversion Rate (cfs)	Annual Volume (acre-feet)
1	23	0.38	69
2	29	0.48	87
3	120	2.00	360
4	338	5.64	1014 (86.4 acres pumped)
TOTAL	510	8.50	1530

vi. Round Meadow Creek

The Tribe will be given an 1868 priority date for an amount of water sufficient to irrigate 325 acres at a maximum diversion rate of 1 cfs per 60 acres, for a total diversion rate of 5.5 cfs. The diversion point will be on Round Meadow Creek. The duty of water shall be 3 acre-feet/acre, for a maximum total volume of 975 acre-feet per year.

vii. Cat Creek

The Tribe will be given an 1868 priority date for an amount of water sufficient to irrigate 482 acres, at a maximum diversion rate of 1 cfs per 60 acres, for a total diversion rate of 8.03 cfs. The duty of water shall be 3 acre-feet/acre for the 318 acres proposed to be flood-irrigated, and 2.54 acre-feet/acre for the 164 acres which require pumping, for a maximum total diversion of 1371 acre-feet per year.

3. Further Quantification

a. Existing uses

i. Any existing use of surface water or ground water for which the Tribes desire a Winters right shall be identified as to location, quantity, use, and all other specifics by July 1, 1986.

ii. All parties to the Agreement in Principle will have the right to review the resulting inventory. The parameters of the uses identified (e.g., place, nature, and time of use, diversion and depletion amounts, metering and gauging, etc.) and the method of including these uses in the quantification of the Tribes' Winters rights claims will be subject to mutual agreement of the parties. The non-Indian parties shall not unreasonably withhold their agreement.

iii. Uses so identified and agreed upon shall, subject to court approval, be recognized as additions to the quantified Winters doctrine water rights awarded to the Tribes pursuant to this agreement.

b. Future domestic and livestock ground water uses

i. A Winters doctrine right to underground waters for individual domestic and livestock wells on the Ute Mountain Ute Reservation shall be recognized in the amount of 350 acre-feet per year in the McElmo Creek drainage basin and 1,500 acre-feet per year in the remainder of the reservation.

ii. A Winters doctrine right to underground waters for individual domestic and livestock wells on the Southern Ute Reservation shall be recognized in the amount of 2,000 acre feet per year, provided that in the La Plata River drainage such individual domestic and livestock wells shall be limited as follows:

(a) The well will be the only well on a residential site and shall be used solely for in-household purposes for one single family dwelling; or

(b) The well will be the only well on a 35 acre site, shall not exceed 15 gallons per minute of production, and shall be used for ordinary household purposes, fire protection, the watering of poultry, domestic animals, and livestock on farms and ranches, the irrigation of not over one acre of home gardens and lawns, and for not more than three single family dwellings.

This provision will not preclude the Tribe and the State from agreeing on an alternative allocation plan prior to July 1, 1986.

iii. The further parameters of the future individual domestic and livestock water uses (e.g. place of use, metering and gauging, etc.) shall be identified by the Tribes by July 1, 1986, and shall be subject to the reasonable mutual agreement of the State and the affected Tribe.

V. ADMINISTRATION OF TRIBAL WINTERS RESERVE RIGHT WATERS

1. Introduction

The State and the Tribes acknowledge the hydrologic relationship between the waters allocated to the Tribes, the waters used by non-Indians within Colorado, and the waters needed to meet the requirements of interstate compacts. The parties also recognize the hydrologic relationship between surface and underground uses of water, and the need to develop a uniform administration of these waters.

2. Surface Diversions

The Tribes agree that the State Engineer, in a manner consistent with the agreements contained herein, shall have primary administrative responsibility over all waters apportioned to the Tribes at the main points of diversion located on each river. The State agrees that the Tribes shall have primary administrative responsibility over all the waters within the Tribes' canal distribution systems. The Tribes agree to allow the State Engineer or employees of the State Engineer access to reservation lands but only when required to administer the terms of this agreement.

The Tribes agree to install and maintain headgates on the main diversion points from the rivers and to install and maintain necessary totalizing, accumulating meters, gauges, or other measuring devices on these headgates, to inspect the recorders on a weekly basis, and to report to the State Engineer the reading of these meters as often as needed to ensure compliance with this agreement. The Tribes agree to allow reasonable inspection of headgates by employees of the State Engineer upon request. The Tribes further agree to keep their diversion, transportation, and storage facilities in good repair.

The Tribes agree to provide the State Engineer with either aerial photos of the lands irrigated with updates as changes in irrigation practices occur, or to allow the State an annual examination of the lands irrigated so that the State can inventory the number and location of acres irrigated in order to meet the State's interstate compact recording requirements.

The Tribes agree that when there is an administrative call on the waters of the rivers and a demonstrated likelihood of shortage exists, the Tribes will permit the State Engineer or employees of the State Engineer to monitor the Tribes' diversions of water within the priority system to insure that the waters are being beneficially used in compliance with the terms of this agreement and without waste.

3. Dams and Reservoirs

The Tribes agree to construct, maintain and operate existing or future storage reservoirs, together with inlet, outlet, and spillway structures or other necessary water works facilities in a manner which will protect downstream persons and property. The Tribes agree to inspect such dams using qualified, experienced personnel as often as appropriate for the protection of public health and safety and agree to allow state inspection of the dam and storage reservoirs for the purpose of insuring public health and safety. In the event a reservoir is found by the State Engineer to create a present danger, the Tribes agree to take necessary actions to render the structure safe. When necessary, the Tribes shall make all necessary alterations, modifications, or repairs to the dam.

4. Individual Domestic and Livestock Wells

The Tribes agree to provide the State Engineer with the following information in a Tribal Permit 30 days before the Tribes intend to permit the drilling of a well for individual domestic or livestock purposes: the particular aquifer from which the water is proposed to be withdrawn, the location of the proposed well, the name of the owner of the land on which the well will be located, the estimated average annual amount of water applied for in acre-feet, and the estimated maximum pumping rate in gallons per minute. Thirty (30) days after the receipt of a Tribal Permit to drill a well, the State shall issue well permits for individual domestic and livestock wells.

5. Aquifer Protection

The Tribes agree to drill, maintain, and/or abandon wells in a manner consistent with public health and safety and applicable laws or regulations. Well completion reports and well drilling logs shall be completed and filed with the State Engineer within 30 days of completion of the well.

6. Change of Use

The Tribes may change their water rights, and they agree that any change of water right, including change in the point of diversion unless the diversion is within the same canal system, or change in place or nature of use, shall be filed in the District Court for Water Division No. 7.

The change in use shall be granted if the change does not increase the Tribe's consumptive use or injure other water uses. In determining the consumptive use of Tribal waters, it shall be assumed that the Tribes fully used their water to the extent contemplated by this agreement.

The Tribes further agree that in the event they want to change a surface diversion of agricultural irrigation water to a ground water diversion of agricultural irrigation water, they will provide the State Engineer with a Tribal Permit containing the following information before the Tribes file an application for a change of water right in Water Division No. 7: the particular aquifer from which the water is proposed to be withdrawn, the location of the proposed well, the name of the owner of the land on which the well will be located, the estimated average annual amount of water applied for in acre-feet, the estimated maximum pumping rate in gallons per minute, the proposed use, and a description of the land proposed to be irrigated. Within thirty days after receipt of a Tribal Permit to drill a well, the State Engineer will issue a well permit for the proposed well if the change does not cause greater injury or increase the use of water beyond that contemplated by this agreement.

7. State Adjudicated Water Rights

The parties acknowledge that this administrative agreement governs the Winters reserved water rights of the Tribes but that all other waters appropriated by the Tribes pursuant to the state adjudication or permitting process will be administered and regulated by the State under state law.

VI. UP-FRONT FINANCING/COST-SHARING COMMITMENTS

1. Historical Perspective

a. Introduction

In order to attain a clear perception of the basic reasons for construction of the Animas-La Plata Project (the Project) and its interrelationship with the development of the water resources of the Colorado River Basin and the Upper Colorado River Basin and with the satisfaction of Tribal water claims, one must seriously consider the recent historical development of the Colorado River. Recent, in this case, means that period since the execution of the Colorado River Compact of 1922 that apportioned the use of Colorado River System water between the Upper and Lower Basins in order to protect the rights of the States of Colorado, New Mexico, Utah, and Wyoming (hereinafter referred to as Upper Division States) to develop their shares of the system waters as against the more rapid consumptive uses of water developing in the Lower Division States (California, Arizona and Nevada).

i. Boulder Canyon Project Act

Without achievement of the preceding agreements by the water and political leaders of the Upper and Lower Division States, the construction of Hoover Dam and the All-American Canal under the Boulder Canyon Project Act of 1928 by the Federal Government for the exclusive benefit of the three downstream States would not have occurred in the 1930's and 1940's.

ii. Mexican Water Treaty

The Colorado River Compact of 1922 provided that if an international treaty were executed between the United States and Mexico, the Upper and Lower Division States would each be required to fulfill one-half of any deficiency that might exist in the amount of water agreed to be delivered annually to Mexico. Such a treaty took effect in 1945, thus placing an additional water delivery burden upon the Colorado River System.

iii. Basin-wide Comprehensive Planning

During the 1940's, engineers, economists, and political leaders in the Upper Division States, particularly in Colorado and Utah, began to realize that development of the water resources of the Colorado River was needed to relieve economic distress in local areas, stabilize highly developed agriculture, and create opportunities for agricultural and industrial growth and economic expansion. They advocated comprehensive, basin-wide planning designed to lead to the ultimate development of all water resources of the Basin. A similar movement was underway in the Lower Basin, especially in California and Arizona. Before detailed planning could take place, it was necessary to have a basin-wide inventory of potential irrigation projects, power generating projects, and municipal and industrial uses of water. The realization that the cost of such developments would be beyond the capability of irrigation water users to repay even under the liberal reclamation laws -- because of the rugged mountains and deeply incised canyons, the short growing season in some areas, and the high cost of ponderous storage and diversion works -- crystalized the support behind the concept of using excess revenues from the sale of hydroelectric power for paying portions of the costs of irrigation.

The advantages of having an abundant supply of low-cost electric energy were not overlooked by proponents of water projects. Such energy would stimulate industry in the entire power market area, create new taxable values, new opportunities, and increased purchasing power.

Under constant urging by the States, the United States Bureau of Reclamation in 1946 published a comprehensive departmental report by the two Regional Directors on the development of the water resources of the Colorado River Basin. Called "The Colorado River" and often referred to as the "blue book," its theme was "a natural menace becomes a national resource." After revisions, this report was submitted in 1950 as a report of the Secretary of the Interior to the Congress, where it became House Document No. 419 of the 80th Congress, 1st Session.

One of the far-reaching conclusions in the Bureau of Reclamation's report was that there was not sufficient water available in the Colorado River System for full development of projects then existing and authorized for construction and for all potential projects studied.

The most pertinent recommendation in the report was "that the States of the Colorado River Basin determine their respective rights to deplete the flow of the Colorado River consistent with the Colorado River Compact." The Secretary of the Interior and the President refused to recommend authorization of any projects until such a determination had been made.

(a) In the Lower Basin

Although the Colorado River Compact had apportioned the use of waters of the river system between the Upper and Lower Basins, agreement among the States relative to how much Colorado River water each could consume consistent with the Compact appeared to be a formidable task. In the Lower Basin, Arizona and California were constantly at odds over how much water each should have. In 1930, Arizona brought suit against the Secretary of the Interior and the other six Basin States to enjoin enforcement or implementation of the Boulder Canyon Project Act, which was supposed to effectuate the Compact. In 1934 and 1936 Arizona instituted two more suits against California and the other five Basin States seeking to perpetuate testimony of negotiators of the Colorado River Compact and seeking judicial apportionment of the unappropriated water. Arizona initiated these two suits after California water storage and delivery contracts for 5,362,000 acre-feet of water had been executed. None of the three lawsuits reached the hearing stage.

During the 79th, 80th, 81st, and 82d Congresses, Arizona sought Congressional authorization for construction of her vast Central Arizona Project, which is now under construction and delivering water. Some of the bills were passed by the Senate. None was passed by the House of Representatives. In 1951 the House Committee on Interior and Insular Affairs adopted a resolution that consideration of bills relating to the Central Arizona Project "be postponed until such time as use of the water in the Lower Colorado River Basin is either adjudicated or binding or mutual agreement as to the use of the water is reached by the States of the Lower Colorado River Basin." In 1952 the State of Arizona initiated a fourth Arizona v. California lawsuit in the United States Supreme Court in compliance with the 1951 mandate of the House Committee. The decision in this famous case did not come until 12 years later, in 1964. Arizona won the case in that the Court confirmed her right to the delivery of water by the Secretary of the Interior from the lower mainstem of the Colorado River. One of the highlights of the Supreme Court's decree (376 U.S. 340) was that control of the river below Hoover Dam was given to the Secretary of the Interior. He was authorized to deliver annually from the mainstem of the river 4.4 million acre-feet of water to California, 2.8 million acre-feet to Arizona, and 300,000 acre-feet to Nevada, when 7.5 million acre-feet were available, with any surplus to be divided between Arizona and California.

(b) In the Upper Basin

Instead of using the courts to apportion the consumptive use of water allocated to them by the Colorado River Compact, the five States (Arizona, Colorado, New Mexico, Utah, and Wyoming) having interests in the Upper Basin negotiated and signed the Upper Colorado River Basin Compact in 1948. After each State's legislature had ratified this Compact, Congress gave its consent in 1949.

The Upper Colorado River Basin Compact apportioned a fixed quantity of 50,000 acre-feet of consumptive use of water per year to Arizona for use in the small portion of that State in the Upper Basin. The remainder was apportioned as follows: 51.75 percent to Colorado, 11.25 percent to New Mexico, 23 percent to Utah, and 14 percent to Wyoming.

b. The Colorado River Storage Project Act (70 Stat. 105)

The Bureau of Reclamation's "blue book" report "The Colorado River," which inventoried the potential opportunities for river regulation, irrigated agriculture, and power generation in the Basin, was the catalyst that stimulated the technical and political leaders in the Upper Colorado River Basin to accept and aggressively promote the concept of comprehensive Upper Basin-wide development. The Upper Colorado River Basin Compact, signed in 1948, provided the vehicle for formulating the plan of development known as the Colorado River Storage Project and participating projects. In 1950 a bill was introduced in the Congress to authorize the Colorado River Storage Project, about 6 months prior to the publication of an interim report on such a project by the Regional Director of the Bureau of Reclamation.

The Colorado River Storage Project Act (CRSP Act) became a part of current reclamation law in April 1956. This Act was the result of many difficult, complex negotiations and compromises between and among the four involved Upper Division States and with conservation organizations.

The CRSP Act authorized the construction of four large storage units capable of holding 33,583,000 acre-feet of water for river regulation, power generation, and consumptive use by exchange with Lower Basin water users. These storage units are behind Glen Canyon Dam on the Colorado River in Arizona and Utah, Navajo Dam on the San Juan River in New Mexico and Colorado, Flaming Gorge Dam on the Green River in Utah and Wyoming, and the Blue Mesa, Morrow Point, and Crystal Dams of the Wayne N. Aspinall Storage Unit on the Gunnison River in Colorado.

The CRSP Act also provided for the construction of 11 participating irrigation projects. Ten additional participating projects have been added by enactment of subsequent amendatory laws in 1962, 1964, and 1968. A "participating project" is an irrigation project that is authorized to participate in the consumptive use of compact-apportioned Colorado River water and to participate in the use of moneys in the Upper Colorado River Basin Fund.

i. Upper Colorado River Basin Fund

There are several unique features in the CRSP Act not found in previous reclamation law. These relate to the creation, funding, and utilization of the Upper Colorado River Basin Fund. All appropriations of funds by the Congress for storage units and participating projects must be credited to the Basin Fund as advances, except those for recreational purposes, which are nonreimbursable. All revenues generated by the storage units and participating projects, whether from power, municipal water, irrigation, or other uses, must also be credited to the Basin Fund. Costs are then repaid from the Fund in the following fashion: (1) each participating project must pay its own operation, maintenance, and emergency charges from revenues generated by that project; (2) the costs of power and municipal water features must be paid from the Fund with interest within 50 years; and (3) the costs of storage units allocated to irrigation must be paid within 50 years from revenues in the Fund. Any revenues in the Basin Fund in excess of those needed to defray costs under (1), (2), and (3) above must be apportioned within the Fund to the credit of Colorado (46 percent), New Mexico (17 percent), Utah (21.5 percent), and Wyoming (15.5 percent) for repaying within 50 years allocable irrigation costs that are beyond the repayment capability of irrigation water users.

ii. Costs of Indian Project Nonreimbursable

Another innovative feature of this law was the manner of treating the costs of a project that benefits the Navajo Indians. In recognition of the fact that assistance to these Indians is the responsibility of the entire Nation and not of any one State or group of States, the law specified that when the Navajo Indian Irrigation Project was authorized, the cost of the irrigation allocation beyond the capability of the land to repay should be nonreimbursable. Moreover, payment of construction costs within the capability of the land to repay is deferred for so long as the land remains in Indian ownership. In addition, Navajo Dam and Reservoir, which is required for the irrigation of Indian lands, is without hydropower generators, and has limited value in river system regulation, was classified as a storage unit. By virtue of this classification, and because its cost has been allocated mostly to irrigation, the cost of this dam and reservoir will be almost entirely paid by power revenues from other storage units.

c. The Colorado River Basin Project Act (82 Stat. 885)

In 1963, preceding the U.S. Supreme Court's 1964 decree in *Arizona v. California*, members of Congress from Arizona introduced bills to authorize the Secretary of the Interior to construct the vast Central Arizona Project. California, having lost the lawsuit, immediately served notice that unless a first priority were given to her consumptive use of 4.4 million acre-feet of water per annum over the proposed uses by Arizona, she would oppose the authorizing legislation. Colorado and her sister Upper Division States already were aware that if the full

Compact-required delivery of water to the Lower Basin was to be met, the annual average amount remaining for consumptive use in the Upper Basin was about 20 percent less than the amount apportioned by the Colorado River Compact.

After Arizona agreed to give a priority to California's 4.4 million acre-feet per year the danger to the Upper Basin, and especially to Colorado, became even more critical. The Upper Division States feared that if their water were used by Arizona and California, they might forever be precluded from using their legal entitlement by superior political pressures from the Lower Division States. In order to protect their future interests in the use of water, Colorado and her sister States insisted that a number of their projects be authorized for construction at the same time the Central Arizona Project was to be constructed. This protection is found in section 501(b) of the Colorado River Basin Project Act of 1968, which says:

> The Secretary is directed to proceed as nearly as practicable with the construction of the Animas-La Plata, Dolores, Dallas Creek, West Divide, and San Miguel participating Federal reclamation projects concurrently with the construction of the Central Arizona Project, to the end that such projects shall be completed not later than the date of the first delivery of water from said Central Arizona Project ....

The above language of the 1968 Act is plain and explicit. Eighteen years later, of the five authorized Colorado projects, the Animas-La Plata Project is one of three upon which construction has not even started, although delivery of water from the Central Arizona Project is under way. Two projects, Dallas Creek and Dolores, are under construction. It should be emphasized that the above five projects were included in the Act under an agreement involving Colorado, Arizona, and California as protection for uses of water in the Upper Basin, and it is extremely doubtful that the Central Arizona Project could have been authorized without that agreement.

Section 501(c) of the Act also includes the Animas-La Plata Project Compact, an agreement consummated between Colorado and New Mexico to clarify the rights of each State to store and divert water under the Animas-La Plata Project.

d. Historical Equity

It is in the interest of equity to the Ute Mountain Ute and Southern Ute Indian Tribes and the States of Colorado and New Mexico that the Animas-La Plata Project be constructed now, and in accordance with the comprehensive Upper Basin-wide design having its roots in the Colorado River Compact of 1922, Upper Colorado River Basin Compact of 1949, the Colorado River Storage Project Act of 1956, and the Colorado River Basin Project Act of 1968. According to existing law the project is a participating project of the Colorado River Storage Project, and as such can participate in the use of Upper Basin water and in the use of power revenues from the Upper Colorado River Basin Fund. The water supply for the project is within the apportionments of water use to Colorado and New Mexico under the two Compacts. The project is financially feasible through the use of power revenues from the Basin Fund to pay for those parts of the legally reimbursable costs beyond the ability of the irrigation water users to repay, as was contemplated in the 1940's and 1950's when it was found necessary during project planning to provide for comprehensive basin-wide resource development.

The use of power revenues from the Basin Fund to pay for part of the costs of the project is an innovative, sophisticated form of cost sharing. Many of the power customers are also water users or benefit from the project economically and socially in other ways. From any viewpoint, the power users who create the revenues are paying a rate for power that reflects a very substantial contribution to the costs of the project, just as the municipal and industrial water users who pay full costs plus interest for their water, and the irrigation water users who repay costs up to their financial capability, also share in the project costs.

In his letter of January 24, 1984 to Senate Paul Laxalt the President stated that prior commitments to individual States, such as those made to Colorado and New Mexico with respect to authorization of the Animas-La Plata Project in the Colorado River Basin Project Act, must be considered and shall be a factor in negotiations leading up to project construction. The President said with respect to project financing and cost-sharing policy that all Federal water development agencies will seek new partnership arrangements with the States and other non-Federal interests in financing and cost sharing on all proposed projects, and that each such agency will negotiate reasonable financing arrangements for every project. In other words, cost sharing and financing will be on a case-by-case basis, with unique situations requiring unique and adaptable cost-sharing arrangements within the reasonable capability of the non-Federal participants.

The President also mentioned in his letter that a process for negotiated settlements of Indian water rights disputes has been established and implemented. This process has played an important role in the cost-sharing negotiations with respect to the Animas-La Plata Project because the project has been accepted as an integral part of any water rights settlement by the two Indian Tribes, the non-Indian water users in the area, and the States.

The uniqueness of the overall Animas-La Plata Project on the national, State, and local scenes is inescapable, especially in view of its history and present posture. In summary:

(1) The project is the result of comprehensive basin-wide planning made necessary by the great imbalance between the water demands on, and the water supply of, the Colorado River System, and the high costs of water resource development.

(2) The use of power revenues from the Upper Colorado River Basin Fund makes the project financially feasible as a part of the Upper Basin-wide Colorado River Storage Project.

(3) The Secretary was directed to construct the project as a part of the protection against overuses of Upper Basin water by the Lower Basin.

(4) Construction of the project is in the vital interests of the Federal Government, the two Indian Tribes, the States, and the local users of domestic, municipal, industrial, and agricultural water.

(5) The construction of the project is as essential to the Indian water rights settlement as an engine is to an automobile.

Within the parameters of the above major points and evidence to be gleaned from legislative history, it is evident that the project should and could be constructed under the terms of its original authorization. In spite of that fact, the States have compiled a cost-sharing/financing proposal that is reasonable in that it is believed to be within their capacity to execute, is innovative and unique because it is in conformance with the vagaries of the overall situation, is equitable because it recognizes the trust responsibilities of the Federal and State Governments to the two Indian Tribes, and will save the Federal Government many millions of dollars for litigation costs and, in case the litigation goes sour, many more multi-millions of dollars worth of damages to both Indian and non-Indian claimants.

2. Up-Front Financing/Cost-Sharing Proposal

A central part of this Agreement in Principle is the commitments made by the signatories and the participating governmental entities to honor Congress's 1985 mandate expressed in the 1985 Supplemental Appropriations Act to develop a reasonable arrangement for cost sharing satisfactory to the Secretary of the Interior for the construction of the Animas La Plata Project. Through a combination of cash contributions, staging of certain project features, and assumption of those features as non-federal responsibilities, the United States enjoys under this proposal a $160.1 million reduction in federal outlays for the Animas-La Plata Project. This 28.5 percent reduction in the Federal obligation for the project is achieved through up-front cash contributions and contributions during construction of $78.3 million and the shouldering of the $81.8 million obligation for Southern Ute Reservoir and the Ute Mountain Ute irrigation facilities.

In addition to these significant contributions by the States and the local participants, and in accordance with the colloquy on the Senate floor between Senators Dole and Hatfield that "some of the value of local consideration may be counted toward meeting the portion of the non-federal cost share which is amortized," the present worth of local water users' repayments is properly considered as a local cost-sharing contribution. The present worth payments, which include contributions from New Mexico and Colorado, amount to a discounted value of $67.1 million. When added to the $160.1 million, the total non-federal contribution to Animas-La Plata construction amounts to $227.2 million.

Also included in the cost-sharing commitments are substantial State of Colorado contributions to Tribal development funds, offered because of Colorado's policy of assisting in a substantial way the effectuation of a final Indian Winters rights settlement, rather than as a result of any Congressional mandate to share costs on the Animas-La Plata Project. Under the cost-sharing arrangement the United States is to contribute $49.5 million to the Tribal development funds and the State of Colorado is to contribute $11.0 million. Six million dollars of the State's contribution is to develop the badly needed Cortez-Towaoc pipeline and related facilities necessary to provide a municipal water supply to the Town of Towaoc. The remaining $5 million will be used for other capital projects on the Ute Mountain Ute and Southern Ute Indian Reservation.

The proposed United States contribution of $49.5 million reflects historic breach of trust claims. The funds will be utilized to honor the Tribes' commitments to the United States arising out of the Dolores and Animas-La Plata repayment contracts and to develop the Tribal resources of the Ute Mountain Ute Indian Reservation and the Southern Ute Indian Reservation and will be administered by the Secretary of the Interior. The Secretary will allocate moneys from the Tribal development funds on the basis of annual budgets submitted by the Tribes and approved by the Secretary of the Interior.

The total non-Federal cost-sharing contributions for both the project and settlement of tribal water claims described in Table 4 equal $238.2 million.

Under this up-front financing/cost-sharing proposal, an initial total Federal obligation of $622.7 million, made up of the $562.2 million estimated cost of the Animas-La Plata Project and the proposed $60.5 million commitment to the Tribal development funds necessary to settlement of the Tribes' Winters rights claims, is reduced to $451.6 million. Contributions from the States, the local entities, and the Ute Mountain Ute and Southern Ute Indian Tribes to the project and the settlement total $238.2 million, or approximately 38 percent of the combined cost of construction of the Animas-La Plata Project and settlement of the Winters rights claims of the two Tribes.

3. Explanation of Table 4

The following Table 4 provides the specifics of the parties' upfront financing and cost-sharing proposal for the Animas-La Plata Project and the Tribal Winters rights settlement agreement.

Table 4

Animas-La Plata Project Financing/Cost-Sharing Proposal-
Ute Indian Tribes Reserved Water Rights Settlement
($ millions)

Item	(1) Existing Federal Obligation	(2) Proposed Cost Sharing Non-Federal	(3) Proposed Cost Sharing Federal	(4) Present Worth of Repayments
	(Oct. 1985 Unit Prices)			
A. Animas-La Plata Project:				
1. Non-Indian Muni & Industrial Water				
Colorado	$ 21.8	$ 7.3	$ 14.5	$ 5.1
New Mexico	19.8	19.8	0	0
Subtotals	41.6	27.1	14.5	
2. Indian Muni & Industrial Water				
Colorado - So. Ute Dam & Res.				
Staged Construction		43.0		
Interest During Construction (IDC)		4.3		
New Mexico Irrig. Canal		2.4		
Portion of So. Ute Inlet Canal		1.5		
Portion of So. Ute Inlet Canal IDC		0.1		
Subtotals	114.9	51.3	63.6	22.3
3. All Other Costs				
Colorado				
Non-Indian Irrigation	241.2			5.6
Indian Irrigation	72.4			0.4
Ute Mountain Ute Irrig. Construction including drains staged (excluding non-Indian lands)		30.5		
Enlarge Durango Pumping Plant	3.2			
Enlarge Inlet to Ridges Basin Res.	2.4			
New Mexico				
Non-Indian Irrigation	38.6			1.6
New Mexico Interim Facilities	3.0			
Non-Reimbursable Items:				
Fish & Wildlife Mitigation	5.2			
Fish & Wildlife Enhancement	12.4			
Cultural Resources	17.5			
Recreation	9.8			
4. Other Sources of Funding				
Colorado				
State of Colorado and Colorado Water Resources & Power Development Authority		$ 48.0		
Local Project Beneficiaries		0.2		
New Mexico				
Interim Facilities pending So. Ute Res.		3.0		
Subtotals	405.7	81.7	324.0	
5. Operation, Maintenance & Replacement				32.1
6. TOTAL - Animas La Plata Project	$ 562.2	$ 160.1	$ 402.1	$ 67.1
B. Tribal Development Funds:				
Colorado				
1. Towaoc Water Pipeline - Dolores Project	4.2	4.2	0	0
2. Towaoc Distribution Sys. & Res. Storage	1.8	1.8	0	0
3. Other Related Resource Development	54.5	5.0	49.5	
Subtotals	60.5	11.0	49.5	67.1
Total Capital Costs	$ 622.7	$ 171.1	$ 451.6	
Reduction in Federal Outlays Under States' Proposal		$ 171.1		
Present Worth Values		67.1		
GRAND TOTAL NON-FEDERAL COST SHARE		$ 238.2		

Where applicable, the figures in Table 4 are predicated on a 12-year construction schedule for the project. The 12-year construction schedule, in turn, is based in part upon non-Federal financing of a geologic surface survey of the Ridges Basin Dam and Reservoir area, to commence in the spring of 1986. It is also based on contracting with engineering firms for data compilation, design, and construction management of the Long Hollow Tunnel and major portions of the Dry Side Canal, thus permitting concurrent construction of certain project facilities.

Brief explanations of the assumptions related to specific items on Table 4 are outlined in the following paragraphs.

Column (1) under item A illustrates the existing obligation of the Federal Government under the 1968 Colorado River Basin Project Act (82 Stat. 885), which directed the Secretary of the Interior to construct the Animas-La Plata Project. Item A-6 shows that the total construction outlay by the Federal Government under the present law and the negotiated agreement would be $562.2 million.

Column (1) under item B shows a Federal obligation to the two Indian Tribes for development funds amounting to $60.5 million. It is assumed that the Federal Government would have to provide this or a like amount adequate to meet the Tribes' resource development needs under any negotiated settlement of the Indians' water rights claims. This brings the total federal outlay for the project and the Winters rights settlement to $622.7 million.

a. Animas-La Plata Project

Item A.1. In column (1) the non-Indian municipal and industrial water (M&I) costs of $41.6 million have been apportioned between Colorado and New Mexico. Column (2) shows the non-Federal contributions to these costs. Public entities in each state have committed to provide a total of $27.1 million in cash contributions to cost sharing. In the case of New Mexico, San Juan County, New Mexico, will assess a 3-mill ad valorem tax and use the proceeds to pay the Federal Government $19.8 million during the project construction period. In the case of Colorado, in the year prior to the completion of construction of the M&I water delivery features, the Colorado Water Resources and Power Development Authority or some other qualified Colorado entity will issue revenue bonds and use the proceeds to pay the Federal Government $7.3 million in a lump sum for the bonded portion of the allocated M&I water. This arrangement will insure that the Federal Government receives $27.1 million in M&I contributions prior to delivery of water. In contrast, under existing law, M&I users would be entitled to defer commencement of repayment for 10 years after delivery. The remaining $14.5 million of M&I water would be under contract with the Secretary of the Interior. This amount is shown in column (3) as a Federal obligation. Colorado M&I water users, however, will repay this remaining cost with interest to the Federal Government under the Water Supply Act of 1958.

Item A.2. Indian M&I costs amount to an existing Federal obligation of $114.9 million as shown in column (1). Column (2) shows a $51.3 million non-Federal contribution, which would reduce the Federal obligation to $63.6 million, as reflected in column (3). These savings result from removing the cost of construction of Southern Ute Reservoir as a Federal financial responsibility. The $51.3 million non-Federal contribution in column (2) reflects the costs of Southern Ute Dam and Reservoir, the New Mexico Irrigation Canal, a portion of the Southern Ute Inlet Canal, and interest during construction. The $51.3 million would cease to be a Federal obligation. Construction of the dam and reservoir would be staged, and would be funded through an issue of revenue bonds by either the Colorado Water Resources and Power Development Authority or the Southern Ute Indian Tribe whenever conditions warrant the execution of contracts for the sale or lease of M&I water from the reservoir.

Pending the construction and completion of the Southern Ute Reservoir: (i) the Tribes shall have the contractual right, pursuant to and subject to the provisions of parts IV.1.b. and IV.2.a. above, to receive their allocations of Animas-La Plata Project water at Ridges Basin Reservoir, and (ii) the State, in accordance with part VI.3.a.ii below, shall take whatever steps are necessary, if any, to ensure that the yield of the project and the average annual allocations of project water both to the Tribes and to non-Indian users are as set forth in the Definite Plan Report for the project.

Items A.3 and A.4. Under existing law, the Federal obligation for "all other costs" amounts to $405.7 million, as itemized in column (1). Thus, the total Federal construction obligation, including Indian and non-Indian M&I, would amount to $562.2 million. With the development funds of $60.5 million discussed below, the total Federal capital cost for both the project and the water rights settlement would have originally amounted to $622.7 million.

As shown in column (2), non-Federal cost sharing with respect to "all other costs" amounts to $81.7 million. These contributions are as follows:

i. A $30.5 million reduction in Federal outlay of funds results from the staging of the Ute Mountain Ute irrigation facilities under the Animas-La Plata Project to the end of the construction period or beyond. This will give that Tribe an opportunity to finance the construction of these facilities through their resource development funds or in some other manner, as the Tribe finds appropriate at the time it desires development of that water allocated to agricultural irrigation purposes. The State of Colorado agrees to use its best efforts to assist the Tribe in arranging such financing. (The non-Indian portion of the costs of these facilities has been excluded from the calculations.)

ii. The State of Colorado and the Colorado Water Resources and Power Development Authority will contribute $48 million. Of this amount, $42.4 million represents the purchasing value of $30 million to be made available by the Colorado Water Resources and Power Development Authority as up-front financing at the start of construction. This amount would be used at the rate of 20 percent of the annual construction cost from a reserve construction account, assuming 4.5 percent inflation and earning compound interest at 8 percent per annum until the principal and accrued interest in the reserve account are exhausted, which is expected to be in about the seventh or eighth year of the construction period. (Actual inflation rates and/or income interest rates during the construction period could vary this estimate.) The balance of the $48 million, or $5.6 million, will be provided at the direction of the General Assembly for the purpose of defraying the costs of enlarging the Durango Pumping Plant ($3.2 million) when that becomes necessary, and enlarging the inlet to the Ridges Basin Reservoir ($2.4 million) during the initial construction of the project in order to provide for the delivery of water pending the staged construction of Southern Ute Reservoir, without shortages greater than originally contemplated.

iii. Local project beneficiaries will contribute an estimated $0.2 million, as follows: the Animas-La Plata Water Conservancy District, $5,000 per year during the construction period; $50,000 in a lump-sum from Montezuma County; $15,000 per year for five years from the Mancos Water Conservancy District; and present but undetermined values to be attributed to services such as water treatment and operation and maintenance to be performed at cost by the City of Cortez, the Dolores Water Conservancy District, et al.

iv. New Mexico will contribute $3 million to cover the cost of interim water delivery facilities made necessary by the staging of construction of Southern Ute Dam.

b. Tribal Development Funds

In column (1) under item B, a Federal obligation of $4.2 million is shown for the construction of the Cortez-Towaoc domestic water pipeline and $1.8 million for a Towaoc domestic water distribution system for the Ute Mountain Ute Tribe under the Dolores Project. Column (2) shows a total of $11 million as a contribution by the State of Colorado to the Indian Tribes' development funds. Of this sum, $4.2 million would cover the cost of construction of the Cortez-Towaoc pipeline by the Colorado Water Conservation Board, $1.8 million would retire costs of the Towaoc Distribution System and related facilities, and $5.0 million would be a contribution to the development funds. The use of $6 million of the $11 million to be contributed to the Indians' development funds is contingent upon settlement of the Indians' reserved water rights claims and approval of changes in the use of already-appropriated funds by the Colorado General Assembly. The State agrees to seek legislation which will exempt the Colorado Water Conservation Board from the provisions of sections 24-92-101 et seq., and 24-30-1401, C.R.S. (1982), in order that the Colorado Water Conservation Board may contract with the Weeminuche Construction Authority, Ute Mountain Ute Indian Tribe, to perform the engineering work for and construction of the Cortez-Towaoc pipeline and Towaoc distribution system so long as the Colorado Water Conservation Board, in its sole discretion, finds that the Authority can satisfactorily perform the work. It is anticipated that the remaining $5 million of the $11 million contribution will be appropriated by the Colorado General Assembly. Its use will also be contingent upon settlement of the Indians' reserved water rights claims, in lieu of paying for costs of prolonged litigation.

c. Summary: Through a combination of up-front contributions to construction of the Animas-La Plata Project and contributions during the construction period, non-Federal entities will provide $78.3 million in cash which, when added to $81.8 million for later staging of the Southern Ute Reservoir and Ute Mountain Ute irrigation facilities, totals $160.1 million or 28.5 percent of the project construction cost.

Column (4) shows the present worth of repayments made by project beneficiaries discounted 10.898 percent. These present worth values are properly included as cost-sharing contributions, in accord with the colloquy referenced above between Senators Dole and Hatfield, and amount to $67.1 million. When added to the $160.1 million, this increases the total non-Federal contribution to Animas-La Plata Project construction to $227.2.

When Colorado's contribution of $11 million to the development funds is also included, the total of the non-Federal contributions becomes $238.2 million. The State of Colorado will contribute $11 million to the $60.5 million development funds to be created for the two Indian Tribes ($40.5 million for the Ute Mountain Ute Tribe and $20 million for the Southern Ute Tribe.) Thus, Colorado will be contributing 18 percent of these development funds, and the Federal Government 82 percent or $49.5 million.

The total $238.2 million non-Federal contribution represents 38 percent of the combined costs of the Colorado Ute Indian Tribes Reserved Water Rights Settlement and Animas-La Plata Project Financing/Cost Sharing.

VII. FINALITY OF AGREEMENT

The signatories have identified the following actions required to implement this agreement in principle. The signatories commit their best efforts to securing each required action.

1. Required congressional enactments

a. Defer Tribal repayment obligations.

b. Waive all Tribal Winters rights claims except as set forth herein.

c. Waive the provisions of the Nonintercourse Act.

d. Permit Tribal monetary recovery from the United States in the event the United States fails to deliver in a timely fashion the water provided for in this agreement.

e. Ensure the completion in a timely fashion of the federal obligations contemplated by this agreement.

f. Permit the Mancos Valley Irrigation District to defer its federal repayment obligations so that it might contribute to the cost-sharing fund.

g. Provide Federal monies for the Tribal development funds.

2. Judicial approval

The parties shall, on or before October 1, 1986, present to the Colorado District Court for Water Division No. 7 for its approval a consent decree incorporating this agreement. The decree will provide that upon approval of the rights identified herein, the Tribes and the United States as trustee for the Tribes shall waive any and all claims of water rights within the State of Colorado not expressly identified therein, established by existing court decree, or otherwise recognized under State law, including any and all claims of water rights or injury to water rights, for the benefit of the Tribes or any individual claiming under the Tribes, from any source of surface water or waters tributary thereto, arising under any laws of the United States or of the State of Colorado. The decree will further provide that it shall become final upon joint certification by the signatories hereto that the legislative enactments necessary to implement this agreement have been obtained. In the event that the court fails to recognize the rights described in this agreement, or otherwise departs in any material way from the substance of the agreement, the Tribes shall have the opportunity to void this agreement in its entirety upon 30 days' notice to the Attorney General of the State of Colorado, and on the same grounds the Colorado Attorney General may void the agreement upon 30 days' notice to the United States Attorney General and the chairmen of both Tribes.

3. Remedies in the event contingencies are not met

a. The parties agree to request Congress to appropriate $49.5 million to the Tribal development funds. In the event the Federal Government fails to provide the requested funding by December 31, 1987, the Tribes shall have the opportunity to void this agreement in its entirety upon 30 days' notice to the Attorney General of the State of Colorado.

b. The State of Colorado agrees to seek funding from the Colorado General Assembly in order to contribute $5 million to the Tribal development funds, and to seek legislative authorization to spend $6 million from the existing appropriated funds of the Colorado Water Conservation Board to carry out the obligations set forth in this agreement. In the event the State of Colorado fails to provide the required funding by June 30, 1987, the Tribes shall have the opportunity to void this agreement in its entirety upon 30 days' notice to the Attorney General of the State of Colorado.

c. The parties agree to request Congress to provide that in the event the United States fails to deliver in a timely fashion to the Tribes waters from the Dolores and the Animas-La Plata Projects as described herein, the Tribes shall have the right to bring an action in the United States Claims Court for the market value (as determined at the time or times the actions are initiated) of the project waters not delivered, and to provide that the United States shall waive its immunity to permit such damage actions.

4. Ratification and modification of agreement

a. All ratifications and approvals required of the signatories shall be obtained by April 30, 1986.

b. This agreement may not be modified in any manner whatsoever, except with the joint consent of the parties.

5. Repayment contracts

The Tribes and the United States shall enter into repayment contracts for the Dolores and Animas-La Plata Projects, which repayment contracts shall (i) be consistent with the provisions of this Agreement in Principle and be promptly executed; (ii) assure, within the confines of the existing Environmental Impact Statement for the Dolores Project, that the United States will execute its responsibility to insure that the combined Highline-Towaoc Canal and laterals on the Ute Mountain Ute Reservation will be completed by 1993, and that the Tribal benefits under the Animas-La Plata Project will be provided at least simultaneously with the benefits provided non-Indians; (iii) assure that the Tribes obtain preferential rights under Federal law to design and construct the Tribal portions of the Dolores and Animas-La Plata Projects funded by the United States; and (iv) assure that the Tribes are not restricted by application of federal reclamation laws from leasing waters designated herein.

VIII. GENERAL PROVISIONS

1. Nothing in this agreement shall be deemed:

a. To preclude the Tribes or their members from seeking additional water rights in accordance with state law or from acquiring such state-law rights by purchase, relinquishment, or other operation of law.

b. To limit in any way the rights of the parties or any other person to litigate any issues or questions not resolved by this agreement.

c. To authorize the taking of a water right which is vested under state or federal law.

d. To alter the effect of any subordination agreement pertaining to relative priorities of water rights previously entered into between or among the United States and/or either Tribe and any other water user.

2. The parties expressly reserve all rights not granted, recognized, or relinquished in this agreement.

3. It is acknowledged and understood by all parties that (i) a dispute remains between the Tribes and the State on the question of interstate marketing of water or of water rights; (ii) that the State of Colorado's agreement in principle with the concept of tribal leasing of water or of water rights is based upon the State's position that the Tribes should be able to enter into such leasing agreements to the full extent permitted by Colorado law; and (iii) that the support of the State of Colorado for legislative action necessary to implement this agreement is contingent upon the neutrality of such legislation with respect to this unresolved question.

4. Wherever a reserved right is recognized herein for use on a parcel of land that is already irrigated under an existing state decreed right, the state decreed right shall be deemed relinquished unless otherwise expressly agreed.

5. The agreement contained herein has been arrived at in the process of good faith negotiations for the purpose of resolving legal disputes, including pending litigation, and all parties agree that no offers and/or compromises made in the course thereof shall be construed as admissions against interest or be used in any legal proceeding other than one for approval of this Agreement in Principle prior to entry of a final consent decree.

6. The "abandonment" statutes of the State shall not ap-

ply to any of the reserved water rights recognized in this agreement.

7. The Tribes will relinquish any breach of trust claims against the United States arising from its management of the Tribes' water resources. The Tribes retain the right to bring an action or actions arising from the Federal Government's actions related to its duties under this agreement or any subsequent agreement seeking to carry out the purposes or intent of this agreement.

OVERVIEW OF PROGRAM REQUEST

Senator DOMENICI. Now if you would please proceed, Mr. McDonald?

Mr. McDONALD. Senator, thank you very much. May I also acknowledge those in the audience representing the six or seven interests which I have identified, a group which numbers 30 or so people.

Besides being the traditional display of tour de force, I would emphasize, that you see here two States, two Indian nations, local water users from both Colorado and New Mexico. We are here to present to you here today, as you well know, the fruits of a comprehensive and final settlement of the reserved rights claims of those Indian tribes. I think you would agree, a settlement which deserves the highest priority attention of the administration and the Congress.

It represents much effort in unanimous work of very diverse interests to bring a compromise about.

I will let my statement for the record stand without embellishing at any great length. It speaks for itself. It is a pleasure to be be able to speak for not only the Colorado Conservation Board, but for the Honorable Richard Lamm, Governor of Colorado.

Let me highlight three or four items in the statement on behalf of the Ute. First of all, on behalf of the South Platt River in eastern Colorado, it is not included in the President's budget. We would respectfully ask additional funding to finalize the conclusion of the section 7 consultation process on the Endangered Species Act, which involve the whooping crane and the Indians of that project and the other preconstruction prerequisites which we can be in hand by conclusion of fiscal year 1987 so we can then move to construction.

STAGECOACH LOAN PROJECT, COLORADO

Mr. Fletcher has spoken about the Stagecoach Reservoir project, a proposed project under the Bureau's Small Reclamation Project Act. I would support that request for the appropriation and do acknowledge, of course, that the authorized ceiling needs to be increased first. The State of Colorado is squarely in support of that increase in the authorized ceiling. My board has been authorized to expend $6 million on that project, which would be more than 50 percent financed by non-Federal moneys through that program.

Third, I would support the Salinity Control Program of the Colorado River basin States. That is a program, Senator, with which you are well acquainted, and I would simply like the record to reflect that we, the State of Colorado, endorse the President's budget request with respect to the Bureau's salinity program.

Finally, the mayor of Pueblo has spoken to you about the Fountain Creek project. My written statement speaks to that at some length, and I would simply indicate, also, the State of Colorado's support for that Corps of Engineers flood control projects in our area.

UTE INDIAN WATER RIGHTS SETTLEMENT

Let me conclude by turning now to this comprehensive and final settlement of the claims of the two Ute Indian tribes in Colorado. That settlement has three components: The provision of water, both through the Durango and the Animas supply projects, and through the quantification of claims on individual streams that will satisfy and entirely take care of the claims of the two tribes.

That settlement calls for the creation of tribal development funds that will assist the tribes in making their reservations, indeed, the lands that they were meant to be.

We speak to the issue of up-front financing and cost sharing by proposing in that settlement that there be $78 million of hard cash provided during the time of construction by non-Federal interests; that two major sets of project features be assumed by non-Federal interests, and that would also with a direct and immediate reduction of Federal budget outlays.

The third component is $67 million in prepayment, expressed in present worth, no smoke or mirrors, if you will. This is the real advantage to the Federal Government of that arrangement. We believe that the settlement, insofar as it speaks to the up-front financing and cost-sharing issue, is entirely consistent and speaks to every requirement of the President's letter to Senator Laxalt in January 1984 in which the President set forth the position of his administration on cost sharing.

Furthermore, we are completely satisfied that we have met the requirements of Congress in the 1985 Supplemental Appropriations Act that you imposed on non-Federal entities, the obligation to reach reasonable cost-sharing requirements with the Secretary of the Interior.

We think, third, that this settlement provides an avenue by which the United States can meet its obligations under the 1968 Colorado River Basin Act to build the Animas-La Plata project, as well as others, concurrently with the delivery of the water to the Colorado River project. Furthermore, to obligate the U.S. obligations as trustees to the tribes. And finally, to avoid breach of trust and damage claims which tribes will make against the Federal Government.

I would conclude my comments about this settlement by observing that in every way, the cost-sharing proposal and the proposal we have put forward is comparable to the projects which the Administration has already agreed to, including the Central Arizona Agreement which, it is my understanding, was just executed by the Secretary this morning.

Mr. Chairman, with that, I would conclude my comments and defer to the balance of the panel for brief comments.

Senator Domenici. Your entire statement will be made part of the record.

[The statement follows:]

STATEMENT OF COLORADO WATER CONSERVATION BOARD

Introduction

I am J. William McDonald, Director and Secretary of the Colorado Water Conservation Board. I am testifying on behalf of the Honorable Richard D. Lamm, Governor of Colorado; Mr. David H. Getches, Executive Director of the Colorado Department of Natural Resources; and the Board itself, which is the state agency charged with the protection, conservation, and development of the water resources of the State of Colorado.

Summary of Requests

Colorado supports the funding included in the President's recommended FY 87 budget for Bureau of Reclamation and Corps of Engineers projects in Colorado, especially the Bureau's Animas-La Plata Project, which is a centerpiece of the just negotiated settlement of the reserved water rights claims of the Southern Ute and Ute Mountain Ute Tribes. In addition to the projects included in the President's proposed budget, funding is respectfully requested:

(1) to complete the Endangered Species Act consultation process and other construction prerequisites on the Narrows Project,

(2) for the Stagecoach Reservoir Project under the Small Reclamation Projects Act loan program in the amount of $100,000, and

(3) for a construction start on the Fountain Creek flood control project in the amount of $1.36 million.

Bureau of Reclamation (Water Development Projects)

On-Going Projects. We urge that Congress maintain the funding levels requested by the President for on-going projects. We would caution that all of Colorado's on-going projects will, under the President's recommended budget, receive less funding than has been appropriated to them in the current fiscal year. Further cuts would be unduly harsh.

We believe that Colorado has taken its fair share of cuts in the President's budget. Other projects throughout the reclamation west must bear their proportionate burden in these times of fiscal austerity. We would strongly resist any effort to increase funding for other Bureau projects at the expense of Colorado's on-going projects. Hopefully this committee is of the same view.

Animas-La Plata Project. This project, which was authorized in 1968, is a joint Colorado-New Mexico project designed, among other things, to address many of the water supply problems which confront the Indian reservations in the project area. Other components of the project will serve non-Indian populations in Colorado and New Mexico with municipal water. Finally, project water would significantly strengthen the irrigated agricultural economy of southwestern Colorado.

The Animas-La Plata Project is a key to the resolution of the reserved water rights claims of the Ute Mountain Ute and Southern Ute Indian Tribes. Those claims are pending in court and would have a dramatic impact on water users in Colorado and New Mexico if litigated.

The State of Colorado, Ute Mountain Ute Indian Tribe, Southern Ute Indian Tribe, and non-Indian water users in southwestern Colorado have just agreed to a comprehensive and final settlement of the Tribes' Winters water rights claim in southwestern Colorado. This agreement resolves the long-standing reserved water rights claims of the Tribes by recognizing those rights and providing the Tribes with the physical and financial resources to put those rights to use.

The settlement avoids costly and divisive litigation over the nature and extent of these Indian water rights. Furthermore, the settlement provides benefits to all water users in southwestern Colorado and to municipal and agricultural water users in New Mexico.

The settlement has three major components:

(i) the satisfaction of disruptive Winters rights claims through the delivery of water from the Dolores Project and the Animas-La Plata Project and the quantification of water for the Tribes on various streams,

(ii) the establishment of Tribal development funds to assist the Tribes in making their Reservations economically self-sufficient, and

(iii) the commitment to non-federal up-front financing/cost-sharing for the Animas-La Plata Project and for the Tribal development funds.

The keystone of the settlement is the provision of water to the two Tribes from the Dolores Project, which will be completed in 1993, and the Animas-La Plata Project, which is not yet under construction although it was authorized by Congress in 1968 and was to have been built concurrently with the first delivery of water to the Central Arizona Project. The additional water provided by these projects will permit the continuance of non-Indian economies dependent upon existing water supplies while simultaneously providing the Tribes with the water they need to develop the resources of their Reservations.

In light of the importance of the Animas-La Plata Project to the proposed settlement, a major component of the settlement is the commitments made by the State of Colorado, the Ute Tribes, and local water users to honor the mandate expressed by Congress in the 1985 Supplemental Appropriations Act to develop a reasonable arrangement for cost-sharing satisfactory to the Secretary of the Interior for the construction of the Animas-La Plata Project. $78.3 million worth of non-federal, up-front, cash contributions during construction and assumption by non-federal parties of the $81.8 million cost of construction of the Southern Ute Reservoir and Ute Mountain Ute irrigation facilities result in a 28.5% reduction ($160.1 million) in federal monetary outlays. $67.1 million, which is the discounted present worth of future repayments to the United States by New Mexico and Colorado beneficiaries, are also counted as part of the local cost-share, bringing the total non-federal contributions to the $562.2 million cost of the project to $227.2 million.

Narrows Project. This project was reauthorized by Congress in 1970. It will provide supplemental water to some of Colorado's most productive agricultural lands, municipal water to several rural communities, and significant recreational opportunities. Another project purpose will be flood control. Finally, secondary benefits will accrue to downstream water users in Nebraska.

The Narrows Reservoir will be the largest water body in close proximity to the greater Denver metropolitan area. The project will yield numerous recreational benefits to the rapidly growing communities along Colorado's Front Range. For example, boaters now frequently travel over 200 miles to Lake McConaughy in Nebraska, while facilities in the metropolitan area are being used to their capacity. The Narrows Project will substantially expand the area's water-based recreational resource to the benefit of well over a million people.

The project was in a construction status in 1977 when it was halted by the Carter Administration. At that time, activity on the project was suspended even though property acquisition and final engineering and design work were underway. In fiscal years 1983 and 1984, the Bureau updated and completed the planning for the project.

FY 86 appropriations were $500,000, primarily to be used to conduct the section 7 consultation process under the Endangered Species Act. In order to insure the success of this process, which concerns the project's alleged impacts on the endangered whooping crane, and in order to complete other pre-construction work, we respectfully ask that the Congress appropriate additional funding in FY 87.

Other Projects. We also want to remind Congress that Colorado has four other authorized projects--Fruitland Mesa, San Miguel, Savery-Pot Hook, and West Divide. If these authorized projects are not going to be funded with Congressional appropriations, despite the fact that repayment would be made from Colorado River Storage Project (CRSP) power revenues, then CRSP power revenues should, in Colorado's opinion, be made available in a manner which will enable the Upper Division states themselves to finance the construction of water projects which will achieve a level of development equivalent to that represented by these authorized, but as yet unconstructed, CRSP participating projects.

To this end, Colorado continues to explore ways to make CRSP power revenues payable directly to the four Upper Colorado River Basin states. Such funds would then be used by those states to finance water project construction in order that the level of development agreed to by Congress, the seven Colorado River Basin states, and the purchasers of CRSP power can be achieved. This is a matter of highest priority for Colorado and we fully intend to pursue it to conclusion.

Bureau of Reclamation (Small Reclamation Projects)

Colorado strongly supports the Bureau's Small Reclamation Projects Act program. Several Colorado projects have benefitted from this program in the past and we expect to have more candidates in the future.

Of immediate interest is the Stagecoach Reservoir Project on the Yampa River in northwestern Colorado. The project sponsor has completed its application to the Bureau, the necessary environmental mitigation has been worked out, and the project is otherwise ready to go to construction. Furthermore, the Water Conservation Board has been authorized to finance $6 million of the project's cost with state appropriations.

We respectfully request that Congress include $100,000 in its FY 87 appropriations for this project. It is not included in the President's budget request.

Bureau of Reclamation (Colorado River Water Quality Improvement Program)

The seven states of the Colorado River Basin have endorsed a coordinated, basinwide approach to the reduction of salinity in the Colorado River. The salinity control units being planned and constructed by the Bureau of Reclamation are an integral component of the overall salinity control program. We would call your attention to the detailed statement being submitted on behalf of the seven basin states, acting through the Colorado River Basin Salinity Control Forum, in which statement Colorado concurs.

Corps of Engineers

The sums contained in the President's recommended budget are, with the exceptions noted below, adequate for the timely execution and continuation of federal flood control programs in Colorado. We would caution, however, that any reduction in these budget requests would unnecessarily jeopardize the lives and properties of many thousands of Coloradans.

Especially important is the President's request for construction money for the South Platte River project below Chatfield Lake. Located in the heart of the Denver metropolitan area, this is a critical flood control project. It is important that construction on the South Platte River project be maintained on schedule.

We support the President's recommended budget for $240,000 for continuing planning and engineering on the Westerly Creek flood control project in Denver and Aurora. This project is needed to enable local governments in the area to solve problems upstream from the proposed federal project, which would be located on Lowry Air Force Base. Those upstream problems cannot be addressed until the federal project goes forward.

We take exception to the failure of the President's recommended budget to include funding for the Fountain Creek flood control project, which addresses major flood control problems in the heart of Pueblo. The solution of those problems will enable redevelopment activities to go forward which are of great importance to the economic welfare of the community. This project is included for authorization in the pending omnibus water resources legislation and the Corps has expressed the capability to proceed. In anticipation of the passage of that legislation, and based upon the Corps' capabilitiy statement, we urge that construction funds in the amount of $1.36 million be appropriated for the Fountain Creek project.

I appreciate the opportunity to appear before you. Thank you for your time and consideration.

Senator DOMENICI. Who would like to proceed next?

Mr. MCDONALD. Go in order to make it simple. I will call on Mr. Baker from the Southern Ute tribe, please.

Mr. BAKER. Mr. Chairman, and members of the committee, my name is Chris Baker, chairman of the Southern Ute Indian Tribal Council. The Southern Ute Indian Tribe is one of the two Ute tribes in southwest Colorado that will receive water from the Animas-La Plata project. We appreciate the opportunity to appear before you again to express our strong support for the project.

The message that we bring to you today is the same message that we have brought for more than 20 years, and it was mentioned. There is a large delegation here in this room that has come along to support this request, and I would appreciate it if you would make a special note of the fact that the cowboys and the Indians from Colorado and New Mexico are still working together for the benefit of our area.

Senator DOMENICI. Could all the cowboys and Indians stand up? [Laughter.]

[A large group standing.]

Senator DOMENICI. Let the record reflect that I didn't count them, but there are a lot of them.

What do we do about the lady. What do you call them, cowgirls or what?

Mr. BAKER. Cowgirls.

Senator DOMENICI. Right; cowboys, cowgirls, and Indians, is that what you said?

Mr. BAKER. Yes, sir.

Senator DOMENICI. Very fine.

Mr. BAKER. Since the last time we spoke to the committee, several important events have transpired. First, Congress, through your efforts, appropriated $1 million for startup construction of the Animas-La Plata project. This appropriation was conditioned upon reaching an up-front cost-sharing agreement before June 30, 1986.

As cost-sharing discussions commenced, representatives of the Department of the Interior insisted that a cost-sharing agreement include resolution of our tribe's pending reserved water rights claims. Pursuant to those claims, our tribe has requested judicial recognition of the tribal water rights on all the streams that cross the reservation.

Although the task was difficult, the State of Colorado local water users, the Ute Mountain Ute Indian Tribe and our tribe completed delicate negotiations of our tribe's reserved water rights.

Our settlement incorporating the Animas-La Plata project as an essential component of an agreement with the guarantee that the municipal, industrial, and agricultural water will be available for tribal use from the Animas-La Plata project.

We were able to compromise our claims on reservation streams. Without such a compromise, we know that our claims will have a crippling impact on our neighbors.

In addition to resolving our tribal water claims, negotiators were able to assemble a detailed cost-sharing proposal which relieves the Federal Government of substantial project costs.

In short, we have done our part. The agreement, in principle and cost-sharing package, is the product of intense commitment by tribes, by the farmers, and municipal and State officials. Our tribe needs the water that we will obtain from the Animas-La Plata project.

My tribal members need the economic opportunities that can be obtained with dependable—and I underline that—dependable water supplies.

We respectfully request that you allocate $1 million for construction of the Animas-La Plata project for the benefit not only of my tribe, but also for the benefit of the entire Four Corners area.

I would like to thank you for giving me the opporunity to appear here today.

Thank you.

Senator DOMENICI. Thank you very much.

Mr. Chairman, we are delighted to have you here. Who would you like to testify?

DOLORES PROJECT, COLORADO

Mr. MCDONALD. I call next on Mr. John Porter from the Dolores Water Conservancy District.

Mr. PORTER. In addition to being a manager of the Dolores Water Conservancy District, Senator, I am also a member of the Colorado Power and Water Authority, which will be the political subdivision of the State that puts up a major portion of the State's cash, $30 million of that $78 million up-front cash money for the Animas-La Plata project.

First, I would like to thank you and Mr. Mead for the support that the Dolores project has had. The McPhee Dam is done, the reservoir is filling, and for the first time, this summer, Cortez and supplemental irrigation lands do not have to worry about a shortage of water, the shortage that John Fletcher was talking about.

I want to make two requests to you, Senator. One is that we agree with the President's budget of the $22.6 million for on-going construction of the Dolores project. The second is, for the first time the Dolores project has been integrally tied to the Animas-La Plata project. It has always been an unwritten understanding that the waters that the Ute Mountain Ute Indian Reservation gets out of the Dolores project was in lieu of their claim to the Mancos River. As you know, the Mancos River has a project that was built 30 years ago with the Ute water.

This settlement that we are all talking about agrees that that Dolores project water is in lieu of those claims. So for those two reasons, we urge you to continue funding the Dolores project and to do what you can to move the Animas-La Plata forward.

Senator DOMENICI. Thank you very much. We ought to hear from the Ute Mountain Utes, should we not?

Mr. McDONALD. Yes, Senator,

Mr. Ernest House, chairman of the Ute Mountain Utes, is our next witness.

Senator DOMENICI. Mr. Chairman, we are glad to have you here.

Mr. HOUSE. Thank you, Senator.

I would like to emphasize the statement Chairman McDonald and Chairman Baker alluded to earlier, and that is the cooperation that we have had putting this whole package together. Senator, you are well aware of the Indian water rights that both the State of Colorado and the State of New Mexico are involved with.

I think, Senator, we have worked diligently to get the fair share of all the Indian water rights and anything that the State of Colorado, the Water Conservancy District in both Colorado and State of New Mexico. Our reservation does start from the State of Colorado and goes into the State of New Mexico. So with that, I would just like to remind you, Senator, that we are working hard.

I refer to the Governor from Arizona, where they are working on the same problem that we are working with, and I would like to make it clear for the record that we did work and we are going to work with the people that we have here before you. It will work to the betterment of both the southwestern part of Colorado and the part that is involved here.

Once again, I thank you for this time that you allow us to speak to you.

Senator DOMENICI. Thank you very much. Do you have anything, Senator?

Senator SASSER. No, Mr. Chairman; I have no questions. Thank you very much.

Senator DOMENICI. Let us proceed then.

Mr. KROEGER. Mr. Chairman, Senator Sasser, we join with Tom Taylor, the mayor of Farmington, and his New Mexico group in being excited and honored that you would come and chair this hearing while we testify today.

Senator DOMENICI. Thank you very much.

Mr. KROEGER. We appreciate your support and it is a great honor to us. Very briefly, our statements have been filed. I only wanted to comment that last year the Congress appropriated $1 million, subject to cost-share agreement; and in addition, settlement of Indian water claims.

This seemed like a very unattainable assignment at the time. But a very determined and a very deserving group of people in southwestern Colorado and northwestern New Mexico arrived at an agreement, and I think we actually perhaps startled the Interior Department that this could be accomplished. We have not had this accepted yet at this time, but we would ask that you and your committee exert your influence to get this off of dead center.

We also urge that you follow through with the Presidential budget request for the $1 million appropriation for fiscal 1987. Settlement of those Indian water claims in Colorado and the up-front financing, I think, is a notable achievement, and certainly, the State of New Mexico, the two Indian tribes, and four irrigation districts plus many, many cities, many, many individuals deserve an awful lot of praise and confidence for having done this, and we appreciate your assistance.

Thank you.

Senator DOMENICI. Thank you very much.

Mr. MCDONALD. For the benefit of the reporter, the previous speaker was Mr. Fred Kroeger.

We now ask Mr. John Murphy to speak on behalf of the Animas-La Plata Water Conservancy District.

Mr. Murphy.

Mr. MURPHY. Thank you, Senator Domenici and Senator Sasser and members of the committee.

I am John Murphy of the Animas-La Plata Water Conservancy District. As the district name implies, my organization was developed to form the Animas-La Plata water project. It is important, however, to point out that as a native of the Durango area, the agreement of this project did not start with me or even in my generation.

I grew up on a farm near Durango in an area we call the dry side. This is the area of Colorado that will reserve irrigation water from the Animas-LaPlata project. Farmers and ranchers in this area have been talking about water from the Animas River as long as I can remember, and that is over 50 years.

Much has been said here today about the agreement in principle entered into by the tribes, the States of Colorado and New Mexico, and local water districts, including my conservancy district.

This document represents a tremendous community effort, and beyond that, the statewide effort to determine how the project should be built and how our Indian neighbors should be treated. We have been very fortunate to deal with the tribes who are enlightened and caring and who have set aside some of their claims in order to promote the good of the community as a whole.

INDIAN WATER RIGHTS AND COST-SHARING AGREEMENT

Beginning a year ago, the beneficiaries of the Animas-La Plata project, both Indian and non-Indian, undertook the monumental task of negotiating a settlement of the Tribe reserved water rights and a cost-sharing strategy for the Animas-La Plata project.

In response to the administration's requirement that non-Federal entities contribute up-front moneys to the Animas-La Plata project, the non-Federal negotiators developed a cost-sharing package of over $238 million. Local water districts in southwestern Colorado reached deep into their pockets to contribute to the cost sharing and water sharing.

All negotiating parties worked hard in a frank atmosphere of give-and-take to reach this historic agreement in principle premised on the construction of the Animas-La Plata project. The agreement incorporates an allocation of scarce water resources which will provide both Indian and non-Indian water users with the water necessary for their economic development.

This negotiated settlement obviates the need for the two tribes to litigate settlement of their water claims. If there is a court adjudication of the water rights, it is likely many non-Indians, the farmers, and the ranchers will be able unable to irrigate their otherwise fertile fields. Devastating economic hardship would result in Four Corners everywhere.

We appreciate the President's request of $1 million in the fiscal year 1987 budget to begin construction of the Animas-La Plata project. We urge your support, not only for 1987 construction funds, but also for completion of the project. We ask you to make a commitment to provide the Southern Ute and Ute Mountain Indian Tribes with the water to make their reservations true homelands without drastically impairing the water rights of their non-Indian neighbors.

We have lived together all our lives. We would like to continue to do so. The Animas-La Plata project is a project whose time has come.

Thank you for your assistance.

Senator DOMENICI. You are most welcome.

Mr. Mayor, we would like to hear from you. Let me first say to you how pleased I am not only that you have joined us, but that a number of the New Mexicans who are with you, that they are here also. I would ask that we try to have the opportunity to talk together when we are finished with this hearing. Perhaps we could find a little time around the lunch hour in my office so we will talk a little further about this project. Perhaps you can bring up some other things that you might have on your mind.

Mr. TAYLOR. Thank you, Senator. I appreciate this opportunity.

I believe that the event of the Animas-La Plata project and the things that have transpired are not only historical, but they are unique. In this Nation today, to see two States and two Indian tribes working together hand-in-hand without bickering and fighting amongst one another toward a common goal, I think it is a great thing, and it needs to be recognized that there is a tremendous effort that has gone on and that there is a tremendous amount of unity involved in this project.

I think it should be noted that we worked hard to compromise with the Federal Government in relation to cost sharing. Within New Mexico, in our own county, we have formed a water commission made up of Farmington, Aztec, and Bloomfield, San Juan County, and also the San Juan Water Users Association.

We have done that expressly to facilitate the Animas-La Plata project and the waters that come from it so they can be equitably distributed in our county. We are very much for it. It solves a number of the water rights problems that we have in New Mexico. The city of Farmington supports the project.

Unlike the Central Arizona Project, which we submit these projects should have been funded concurrently with, is now delivering water to Phoenix; we have settled with the Indians regarding their water rights. We did not ask for funding prior to resolving the water rights problem.

I think it is also important to note that the cost sharing on this project has been addressed by a county-imposed tax whereby we will be able to put this money in and it will generate interest rather than paying interest on it afterward.

I think the Animas-La Plata project is extremely important to our area. We are somewhat tied to the oil- and gas-producing industry in our area. It is important that we broaden our base. The agricultural economic benefits from this project will be of utmost importance in spreading the base of our area and the future of the Four Corners.

I thank you for this opportunity.

PROPOSED COST-SHARING AGREEMENT

Senator DOMENICI. Thank you very much, Mayor. Let me tell all of you how much we appreciate all that you are doing to try to make at least a minimum of a 30-year dream become a reality one of these days. To all the others who are not testifying, but have gone to a very expensive trip to be here, we also thank you for your interest and support.

I am fully aware that we should not be talking about cost sharing on this project. Frankly, this is just as much a part of the overall commitment of the Colorado River projects as any of those that have been started or completed.

We know that hundreds and hundreds of millions of dollars have been spent on those projects which are finished. There was no cost sharing of the type that we are being asked to do for the Animas-La Plata project. Yet, we have been supporters of moving on with projects, and we have come to the conclusion that some cost sharing is a good faith mechanism for realistic projects. So we have reluctantly agreed that there should be a reasonable cost sharing as provided in the statute.

Let me say to our Indian friends, to quote the chairman here, I truly commend you for what you are trying to do. I hope you know that both Senators from Colorado support this, as well as both Senators from New Mexico and the the Congressmen from the region affected support it. While we support the project, I must tell you that Senator Armstrong and I have had a very disheartening meeting with the Secretary of the Interior on this issue. I don't believe, short of a much, much broader understanding of the significance of the Indian claims settlement issue and of a much stronger push by the Assistant Secretary in charge of Indian affairs, that I can be optimistic that the Department is going to approve the proposed cost-sharing proposal.

I don't know whether that is exclusively based upon the fact that the cost sharing is not adequate; that obviously, in each instance where you have cost sharing, is subject to a Secretary's approval, with the only statutory guidance being that it is reasonable, I mean, clearly, there can always be the excuse, that there isn't enough local contribution.

I tend to believe that it is far deeper than that. I tend to believe that there is a great reluctance on the part of the Secretary of the Interior to start new projects of this size whether that is his personal feeling of responsibility, or it is prompted. The fact is, it is extremely difficult to get any of these projects through OMB.

But let me suggest, in particular to the two Indian tribes, I can only urge, with all of the reluctance that I could ever have, that you be extremely tough in exerting your claim to your water rights. I don't believe anybody is going to understand the significance of this settlement, from what I am hearing, unless and until you make it be known that the United States owes you an awful lot of money.

I believe they do. I believe that it is clear that as protectors of your water rights, I will say for myself—and it is my privilege as a Senator to say in this respect what I believe—they have violated their trust responsibility to a significant degree. Yet, you are still sitting around the table willing to negotiate and fix it up. Because, obviously, you want the much broader benefit, as you have both indicated, of a reliable source of water and a viable project for your people, which is based on water which you obviously have not received and are entitled to. From what I understand, you have been entitled to it for a long time.

I compliment you on your willingness to take a position for settlement rather than to disrupt the current uses of water in Colorado and New Mexico which clearly a full claim of your water rights will do.

Frankly, I believe, short of this U.S. Congress just saying, "We are going to fund this and the agreement for cost sharing is adequate; proceed," that we will stumble through another long period of alternatives.

One reason that will be given is that it is going to take too long to construct the project and that other alternatives for expedited water delivery and economic assistance to the tribes is available.

Well, I am not urging that you reject that out of hand. I am suggesting that if that has not been proposed to you yet, it will be. I do hope you will consider seriously the ramifications of not proceeding with the full project as originally contemplated.

But I must say there are some good points made by the Secretary as to how long it will still take. Even after this 30-year walk together, the contention is that these kinds of projects might take yet another 20 years.

At least that is the position that is being taken as the Secretary and his people discussed this issue with Senator Armstrong and myself 3 or 4 weeks ago. You read about Senator Armstrong's conclusions from that meeting. I share them. It didn't look too optimistic.

I can tell you, however, that lack of optimism is not based on our feelings. We feel we are being mistreated to a very significant degree, because this is a long-term commitment, as I indicated. Just as we live up to many others, it is time that up at the top end, we live up to the commitment and get it done.

I don't mean this to sound combative, but I have very little hope that even if we triple the attendance here and offer a few tens of millions of dollars more in the cost-sharing proposal, I really don't believe it is going to easily wind its way through the Department of the Interior and the Office of Management and Budget.

I wish I could say that isn't so, but I firmly believe it is. So I came here at the request of the full committee chairman to do my share, and frankly, I am pleased that it turned out that I could chair the hearing on this important project. I do believe that I understand it; I frankly think the settlement of the water claims suit is so significant that it deserves an enormous amount of credit in any cost-sharing assessment. I have so told them, and they do not deny that.

The Interior Department and the new Assistant Secretary for Indian Affairs would like very much to resolve this issue and I must give them credit. They are looking for some way to help the two Indian tribes realize something significant by way of economic development and something rather quickly. I don't want to judge what is best for you, and clearly this group has been working together for so long that we are surely going to continue to try to make some accommodation.

But I urge that you consider what I have said—do not be misled by the difficulty of your task. This is an excellent agreement that you have put together. I believe there is still a long way to go before we can get it approved by the Department of the Interior. We are going to do our part with OMB and see if they are the bottleneck. We hope they aren't. We hope they recognize the long-term responsibility to the Indian beyond just the economic and budget concerns. If that prompts any of you to reply, we have a couple of minutes for additional comments.

Yes, Mr. McDonald.

Mr. McDONALD. Mr. Chairman, I would perhaps offer some concluding observations. Governor Babbitt of Arizona made three points with respect to the Central Arizona Project which we in Colorado find ourselves agreeing with for a change. The Governor emphasized very strongly—and I could not agree with him more—that the trustee obligation to the tribes is an obligation of the United States and the United States only.

Senator DOMENICI. That is correct.

Mr. McDONALD. He was unequivocal on that, and so are the tribes in Colorado.

The Bureau of Reclamation was used to settle these claims. That has already been done in Arizona. It has been the basis of some cost-sharing agreements, and they are going to use project water to further the settlement of other claims.

Finally, the Governor noted, and I would have to agree, times would have changed in terms of how Bureau of Reclamation projects are going to be financed and how that challenge has to be met.

The other challenge is as the Governor spoke, he spoke with two outstanding suits unsettled, yet he seeks Federal funding for a project. We have a settlement that is ready for the Secretary of the Interior to sign.

As the Governor spoke he, of course, was coming to an agreement. In fact, I understand it may have been executed by Secretary Hodel this morning to provide up-front financing on the balance of the CAP. Colorado offers no less. In fact, I would observe our percentage contribution proposed is greater by 20 percent than what Arizona has offered for the Central Arizona Project, taking the project total costs, not just plan 6, but total cost.

If Secretary Hodel finds favor with the Central Arizona Project under those terms and conditions, I would think he would find ours favorable under the agreement he has in front of him.

Senator Domenici. Perhaps the Secretary and the Assistant Secretary for Indian Affairs have had a change of heart in the past 3 or 4 weeks since we met with him. If they have, clearly, I will be delighted to correct the record. I don't believe I have heard about it, and I think probably, if they had, they would be getting ahold of us.

Does anybody else have any comments?

Mr. Murphy. Senator, I think the proposal that has been submitted is a tremendous bargain for the U.S. Government, and I would hope that they would proceed with this soon and let us get underway with this project.

Senator Domenici. We don't always recognize bargains up here, nonetheless. [Laughter.]

I agree with you.

Mr. Renquist. Senator, I am Harold Renquist representing the city of Farmington. I have been involved in these issues with the Indian water rights now for about some 15 years. This is the first time that I have seen a tribe come before you prior to entering into litigation and settling all the issues they have to settle on the seven rivers in southern Colorado.

This is a unique situation. It is not the type of situation with which the Secretary of the Interior and OMB usually dwell. When it is said that what has been done greatly benefits the United States, with your help, I think we could help them understand the real benefit that comes out of the effort that this group has said. I think it is unique in the history of water projects.

Thank you.

Senator Domenici. Thank you, Mr. Renquist, and thank you all for your testimony and presence here today. We will do our very best to move this project along. Thank you very much.

[The statement follows:]

STATEMENT OF THE SOUTHERN UTE INDIAN TRIBE

I am Chris A. Baker, Chairman of the Southern Ute Indian Tribe. I am here to request funding for the Animas-La Plata Water Reclamation Project. This Project is extremely important to my Tribe. It represents not only an opportunity for us to develop our mineral resources on our reservation and create both employment and income, but further, it represents a cooperative effort on behalf of my people with the non-Indian members of the Four-Corners community in order to resolve very difficult questions pertaining to our reserved water rights.

In 1972, the Federal Government on behalf of the Southern Ute Indian Tribe and our neighbors, the Ute Mountain Ute Indian Tribe, commenced a legal action to ascertain our entitlement under the reserved water rights Winters Doctrine. No question remains as to whether we are entitled to water. The only question remaining is how much we are entitled to. We have repeatedly stated that we have been willing to negotiate the quantity of our claims through the vehicle of the Animas-La Plata Water Reclamation Project and that litigation is an option of last resort for our Tribe. Last month, as a culmination of our willingness to negotiate, we signed an Agreement in Principle with the state and the local water districts in order to quantify our claims. Both private developers and public entities, such as the City of Durango, although non-signatories to the Agreement, have made commitments to the Project. In my mind, this document represents a great breakthrough for the Indian tribes and our non-Indian neighbors.

Despite the justice of our claim for water and for development funds, it is unrealistic to believe that a new federal water project solely to benefit Indian tribes can be achieved within an acceptable time frame. The Animas-La Plata Project is the only area federal water storage project now authorized by Congress. This authorization was obtained only through the combined efforts of all groups in southwest Colorado. In today's economic climate, a project which serves the needs of only one group is unlikely to succeed.

The Animas-La Plata Project has been in the planning stages for over thirty years. Even a scaled-down water project will require years of time consuming design work, environmental impact statements, and political negotiations. By the time an alternative project could be designed and its details approved in all the appropriate places, its cost could equal the current cost of the Animas-La Plata Project. In addition, our engineers have advised us that because of economies of scale, the actual cost of water to the Tribe will be less under the Animas-La Plata Project than under a redesigned smaller project. Furthermore, funding and timely completion of water projects which serve only Indians have been chronically unsatisfactory.

In determining that the Animas-La Plata Project should be the keystone of the water rights negotiations, the Southern Ute Indian Tribe sought an approach which would be fair to all. In the negotiations process the Southern Ute Indian Tribe, along with the other interested parties, participated in a combined give-and-take in an attempt to reach a realistic settlement. We have felt a responsibility to consider the needs of our neighbors. We ask you to consider our needs. We are concerned with the impact upon the Tribe of the alternative strategies which have been proposed. If you truly believe we should have the water to which we are entitled, we ask your support for the Animas-La Plata Project.

Our claims will not only be for reserved water rights, but we are also contemplating whether there has been a breach of the trust relationship by the federal government. The Indian people, as you know, are dependent upon the federal government for many necessities. It is unfortunate that often our dealings with the federal government in the past have been inconclusive. Yet, we feel strongly enough in this water project and in the benefits to our entire community that we return to Congress and ask you to correct the wrongs we have suffered in regard to our water.

We have vast coal reserves on our reservation. Certainly in the development of our coal resources our Tribe will be concerned with maintaining the environmental integrity of our reservation. Our unemployment rate is traditionally high. We feel it is up to us to employ our tribal members, as well as make the best use of tribal lands. We want to treat our land as any landowner, but in order to do this we need the water which was impliedly reserved at the time the reservation was formed in order to make it an economically feasible place to live. Self-determination is a goal of all Indian tribes. The Animas-La Plata Project represents for us a step toward reaching that goal.

Additionally, the Indian people in southwest Colorado have traditionally enjoyed a good working relationship with all people in our community. The benefits of the Animas-La Plata Project are community-wide benefits. While we feel it is important to emphasize our Indian interests, it is also imperative that you understand we come here representing not only the Tribe, but also a wider focus of interest and concern. Some people who oppose the Animas-La Plata Project support Indian water claims. We've seen this to be false and patronizing. If the Animas-La Plata Project does not go, how much better will our neighbors be if only the Indian water is stored and delivered? How much better will our own life be in regard to our neighbors, if our own interests are the only ones which are attended to by Congress?

On previous occasions, we have pointed out the interminable delay which has plagued the building of the Animas-La Plata Project. It was authorized almost twenty years ago. It was authorized as a plan which was entered into over forty years ago. Our patience is not long. We have two generations of tribal members who could have prospered if our water had been in place and been delivered. Instead, these generations, including mine, are back here again before you to say "please, don't let this happen to the next generation." The promises which were made, it is now time to keep. We believe we have kept our promise of trying to be part of a larger community of interests. We hope that you will recognize our commitment and our dealing in good faith and treat us accordingly.

We appreciate the time, and further, we will appreciate your approval of a budget of $1,000,000 as requested by President Reagan for the initial construction phase of the Animas-La Plata Project.

STATEMENT OF THE ANIMAS-LA PLATA WATER CONSERVANCY DISTRICT

I am John Murphy, President of the Animas-La Plata Water Conservancy District. As the District name implies, my organization was formed in order to develop the Animas-La Plata Water Project. It is important, however, to point out that as a native of the Durango area, the dream of this Project did not start with me, or even my generation. I grew up out on the "Dryside." Farmers and ranchers in the area have been talking about diversions from the Animas River for as long as I can remember, and that's more than half a century!

Much has been said today about the Agreement in Principle entered into by the Tribes, the states of Colorado and New Mexico and local water districts, including my water conservancy district. I will not belabor the point, but this document does represent a tremendous community effort, and beyond that, a statewide effort to determine how the Project should be built, and how our Indian neighbors should be treated. We have been very fortunate to deal with tribes who are enlightened and caring, and who have set aside some of their claims in order to promote the good of the community as a whole.

The value of the Project, while it is readily apparent to those of us who live in Colorado, may not be known to you. Therefore, I would like to take a moment to review what this Project will mean to the people in our corner of southwest Colorado. In short, the Project will supply industrial water to both the Southern Ute and Ute Mountain Ute Indian Tribes to enable them to develop their reservations into true homelands. The Project will enable the family farmer, truly an endangered species to continue to exist in southwest Colorado, and the Project will provide a reliable municipal water supply for our area's increasing population.

The Animas-La Plata Project will supply 26,500 acre-feet of industrial water to the Southern Ute Indian Tribe. On the more than 300,000 acres of Southern Ute Indian Reservation, it is estimated that there is between 116,000,000 to 400,000,000 tons of high-grade coal on the surface or just below the surface of the reservation, and over 8,000,000,000 tons of coal in the deeper regions. It is what is known as clean coal. If the Tribe were to mine this exceedingly valuable resource with Project water, it is likely that this development would enhance both the Tribe's economic well-being and assist the Tribe to reach its goals of independence and self-determination.

The Ute Mountain Ute Indian Tribe, while it does not have such extensive coal resources, still has enough coal that the 6,000 acre-feet of industrial water allocated to the Tribe from the Animas-La-Plata Project would help provide a mining operation which could employ between 25 and 45 people. Both Tribes suffer from high unemployment. It would be in all of our interests to assure that the Tribes have an opportunity to develop the resources on their reservations.

Under the Animas-La Plata Project, Colorado is allocated 100,000 acre-feet of water for irrigation. Part of this will go to both Indian tribes and 72,900 acre-feet is designated to go to the Animas-La Plata Water Conservancy District. The irrigation problems in our area are legendary. The rainfall is sparse and sporadic. As recently as the last decade, we suffered a tremendous drought which underscored the need for a reliable source of water. The land to be served by this irrigation water has been classified by the Soil Conservation District as having one of the most productive types of soil. The farmers who use this water are committed to pay their share of the costs of the water. In this area where agriculture has always been a very difficult business, the construction of the

Animas-La Plata Project will assure that the family farmer can continue as a valuable member of the local community, and can continue profitably.

Additionally, the municipal and industrial acre-footage of water for Colorado from the Project is 41,700 acre-feet. The Durango area will receive approximately 9,200 acre-feet of water. As in the rest of Colorado, Durango and La Plata County have increased in population over the last decade. The growth is continuing. The need for an increased water supply has been recognized by everyone from the City of Durango's water engineers, Black & Veatch, to the outlying water providers, such as the South Durango Water District.

The cost-sharing portion of the Project is especially important because it represents the first time, to my knowledge, that the governments of two states have participated with the federal government and local water and municipal entities to assure the building of a water project. Water projects are traditionally government sponsored projects because of their capital intensive character. Private enterprise could not build this project. This does not make the project less worthwhile or less needed. In fact, the public nature of this enterprise only serves to emphasize the important role of continued federal support in order to achieve regional economic health.

I was pleased to note that the President had allocated $1,000,000 in his budget for the Animas-La Plata Project. This is a milestone. It is the first time that the Administration has budgeted construction funds for the Animas-La Plata.

This Project has been delayed for many reasons. The intent of Congress when it put together its package of development projects along the Colorado River drainage, was that the Animas-La Plata Project would be built concurrently with the Central Arizona Project. This obviously has not occurred. The Central Arizona Project is now almost completed. The fact that the Central Arizona Project is now in its last phase gives rise to the inescapable conclusion that there should be more money available for the Animas-La Plata Project.

Do not think that we are insensitive in our small part of the world to the needs for budgetary restraint by the federal government, but the money which you will spend on this Project will be repaid in many ways. First, repayment contracts will be entered into for the municipal and irrigation portions of the water for the non-Indian users. Second, this Agreement will avoid the cost of protracted litigation by the two Tribes to secure their reserved water rights and the cost of damages to the Tribes for the breach of the federal trust responsibility. I cannot help but feel that the Federal Government has breached its trust responsibility to the Indians not only in past history, but also in recent history with regard to their water rights. For example, along the Mancos River where the Ute Mountain Utes clearly have sufficient claims to take almost the entire flow of water, not only did the government allow prior appropriations so that the water was diverted to private users, but the Government also built a water project along the river and committed the water to non-Indians. If the Indians had chosen to litigate the issue of reserved rights claims, an exercise which will not be necessary if the Animas-La Plata Project is built, the Federal Government would be subject to a potentially major damage action, and the non-Indian water users who also relied on their Government would be severely hurt. It is unfortunate that we must come to Congress in order to assure that those promises which were made to the Indian people are kept. It is in the interest of all people in southwest Colorado that the Indians be treated fairly and equitably.

The Animas-La Plata Project represents a unique opportunity to reinforce the goodwill which neighbors of all races have enjoyed in southwest Colorado. We have approached the problem of water scarcity and the need for a water storage project on a community-wide basis. In this effort we have been aided by the State of Colorado, and a genuine statewide interest has been created in this Project exists. Further, the state and citizens of New Mexico have assisted us on a regional problem which does not stop at our borders.

I have a personal belief in this regional settlement. I know that you also have a commitment to a harmonious solution to both the geologic and historic problems of our area. I thank you for your time, and I would appreciate your careful consideration of budgeting $1,000,000 for the Animas-La Plata Project for construction to start in F.Y. '87.

STATEMENT OF THE DOLORES WATER CONSERVANCY DISTRICT

Introduction

I am John Porter, Manager of the Dolores Water Conservancy District. Until my employment with the District, I was a rancher in southwestern Colorado. Since the storage and distribution of water is the lifeblood of our economic existence in the west, I have been involved in various responsibilities having to do with water distribution and development all of my adult life.

The District is the operating entity for the Dolores River Reclamation Project. That Project is just now coming into fruition. For the first time ever, the City of Cortez and the Montezuma Valley Irrigation Company now do not have to worry about a summer water shortage. In addition to providing supplemental water to these two entities, the Project will provide a full supply of water to the towns of Dove Creek and Towaoc, to 28,000 acres owned by 170 landowners in portions of Montezuma and Dolores Counties, to 7,500 acres of land on the Ute Mountain Ute Indian Reservation, to a minimum stream flow release below McPhee Dam thus enabling a "blue ribbon fishery" to be established, and to the recreation use on the 5,000 acre McPhee Reservoir. The McPhee Recreation Area is to be officially opened May 24, 1986, to anxiously awaiting Four Corners States fishermen, boaters, and picnickers.

Summary of Requests

DOLORES PROJECT $ 22,637,000

The President has requested 22.6 million dollars for FY 87 for the Dolores Project.

We recommend that amount be appropriated.

ANIMAS-LA PLATA PROJECT

Subject to a cost-sharing arrangement being in place, the President has requested one million dollars.

We strongly urge that amount be appropriated.

Statement

Mr. Chairman, on behalf of all of the supporters, users, and friends of the Dolores Project, I want to thank you for your dedication to and support of this Project. It is a great thrill to watch McPhee Reservoir fill, and to know that those waters are now available for the first time ever to the river's constituency for the many, many uses and demands that will be placed upon it. We sincerely are grateful to you and this committee for the major role you have played in that accomplishment.

The Dolores Project has had a remarkable consistent history of efficiently using all of the money appropriated to it. It is on schedule. I would caution that any reduction in the level of funding below the President's recommended budget would jeopardize the planning and design efforts, which would curtail the smooth momentum of construction that will see that Project finished by 1993.

I am a member of the Board of Directors of the Colorado Water Resources and Power Development Authority. From that perspective I can testify to you the urgency that all of Colorado feels for the start of construction of the Animas-La Plata Project. Particularly now that the Colorado Ute Indian reserved water rights and the cost-sharing plan have been combined into one agreement, the "Agreement in Principle."

It has always been the unwritten understanding that the 22,900 acre-feet of agricultural water the Ute Mountain Ute Indian Tribe is to receive from the Dolores Project was in lieu of their Winters claim to the Mancos River. By virtue of the "Agreement in Principle," we all, including the Federal Government, now have the opportunity to not only implement that unwritten understanding, but solve a host of other problems as well.

All of the participants to the negotiation of the "Agreement in Principle," and I know you are aware of that varied group, are convinced that their effort was a monumental one, that its culmination was miraculous, and that the fruits of its implementation will be untold. What we are not aware of, and I hope and pray we don't have to experience, is the colossal consequences if the Animas-La Plata is not constructed and that negotiation goes for naught.

Conclusion

Therefore, Mr. Chairman, I urge you and this Committee to not only continue funding the Dolores Project at its recommended level, but I plead with you to use the good auspices of your position to move the Animas-La Plata forward to a "new start."

I truly thank you for your time and consideration.

STATEMENT OF THE SOUTHWESTERN WATER CONSERVATION DISTRICT OF COLORADO

I am Fred Kroeger, President of Southwestern Water Conservation District. I have served on the District's Board of Directors since 1956. The Southwestern Water Conservation District was created by the Colorado Legislature in 1941 to preserve the scarce water resources in southwestern Colorado. To this end, the Pine River Irrigation Project and Florida Water Projects were constructed, the Dolores Water Project is now more than half completed, and the Animas-La Plata Project has been developed as an integral cog interlinking these storage, municipal and industrial irrigation projects.

I will focus on the Animas-La Plata Project in my remarks, in part because we are at a turning point in order to assure Project construction, and in part because I am here to urge you to pattern all other water projects on the Animas-La Plata Project as the standard of cooperation among competing water interests.

Water is a scarce commodity in southwest Colorado. The farmers and ranchers, the mineral interests, the towns, and subdividers and land developers, all have laid a claim to water through the prior appropriation system developed in Colorado. Parallel to this system, the United States Supreme Court recognized that the federal government, and those in a trust relation with the federal government, impliedly reserved water outside the prior appropriation system to make such entities as Indian reservations economically feasible units. The Ute Indian Tribes have reservations, and therefore reserved water rights, dating back to 1868, which pre-date all other appropriated water rights in this area. If the reserved Indian water rights were enforced, it is likely that many streams, such as the Mancos River, would be unavailable for non-Indian use, and further, that municipal water supplies for towns such as Durango would be sharply curtailed. Obviously, the potential of conflicting water rights has been a major source of concern, and has somewhat curtailed development throughout the water district.

At the behest of Congress and the State of Colorado, cost-sharing on the Animas-La Plata and the reserved water rights issue were brought together at the negotiation table. While the Federal Government participated in the negotiations throughout 1985, ultimately, it was the non-federal water users who reached an accord in the monumental "Agreement in Principle" signed by the Southern Ute and Ute Mountain Ute Indian Tribes, the State of Colorado, and various water districts, including the Southwestern Water Conservation District, on March 14, 1986. The Agreement provides that if the Animas-La Plata Project is built the state and local water entities agree to certain cost-sharing and/or water allocations, the Tribes agree to relinquish their reserved rights claims in return for Animas-La Plata Project water certain negotiated direct flow rights and development funds to put the water to use, and various non-signatories to the agreement have agreed to water allocations among themselves and the Tribes.

The potential for litigation and community divisiveness was enormous, but good faith negotiations and statewide commitments have emphasized that the good of all residents in southwest Colorado was more important than enforcing individual water claims. It has been estimated that the real cost of litigating the reserved rights would be in excess of $60,000,000. The alternative is to build the Animas-La Plata Project which is the prerequisite to the accord reached among these disparate water interests. Without the Animas-La Plata Project there will be insufficient water to meet the needs of both the Indian and the non-Indian water users. With the Agreement, water needs and cost-sharing have been quantified. Neighbors know they can continue to rely on the goodwill and good judgment of adjacent landowners, regardless of race.

The interest and commitment generated by the Animas-La Plata Project are not limited to southwest Colorado. The state of Colorado has been instrumental in promoting a negotiated settlement of the Tribes' reserved water rights. Although this is the first federally funded water project which has been required to meet the amorphous cost-sharing standards of the Department of Interior, and it has been difficult for non-federal parties to ascertain the bases for the federal cost-sharing figures, both Colorado and New Mexico have assisted in the development of cost-sharing packages, because of the importance of the Project to southwest Colorado and northern New Mexico. Further, in the "Agreement in Principle." Colorado has quantified a cost-sharing pledge. Unfortunately, the federal government was unwilling to sign the Agreement in Principle. Colorado and New Mexico did meet the federal cost-sharing criteria such as they were, and now Secretary of Interior Hodel and the Administration of this government are trying to back out of their previous agreement. Quite frankly, such conduct is not worthy of the United States government; however, they have not stopped at simply avoiding a commitment. Ross O. Swimmer, Assistant Secretary for the Bureau of Indian Affairs, was sent by Secretary Hodel to approach the Indian tribes as to funding an all-Indian water project. This was certainly a double dealing approach and does not inure to the credit of the United States. However, it is gratifying to know that neither the Indians nor the non-Indians would accept this special interest plan. The bottom line is that our negotiations with the United States Government have not created a great deal of respect for the system, because of Administration back-door dealing and breaking of promises. We take heart, however, in remembering that the United States has been in the vanguard in water development and Congress has led the way. The state and local promises made to assist the completion of the Project are predicated on a continuing strong partnership with the federal government. Because the Administration has been unable to keep its promises, we must turn to Congress for help.

To this end, I appear before you to request your assistance in bringing the Animas-La Plata Project and its attendant Agreement in Principle to fruition. I am pleased to note that the President has recognized the intrinsic worth of this Project by requesting $1,000,000 in his Fiscal Year 1987 Budget. I urge you to make as broad a commitment to this Project as possible since it represents the consensus of diverse entities to place the good of the community as a whole, before individual interests. I have always been proud to be a native of the Four-Corners area, with the Hispanic, Indian and Anglo cultural input, but never more so than today when I can honestly say the Animas-La Plata Project represents the triumph of the community spirit.

I thank you for your continued assistance.

STATEMENT OF SAM MAYNES, ATTORNEY, ON BEHALF OF THE SOUTHWESTERN WATER CONSERVATION DISTRICT

Good morning. My name is Sam Maynes. I am the attorney for the Southwestern Water Conservation District, as well as other water districts in our area. I am also general counsel for the Southern Ute Indian Tribe. The Animas-La Plata Project is important water project to come before this body in this century. It is important because it will store substantial amounts of water for municipalities in the Four Corners Area. The water that it will provide for agriculture and industrial development in our region will create long term economic benefits of lasting significance to Four Corners communities. Perhaps the greatest feature of the Project, however, is the fact that it will solve the Ute Indian water rights issue.

The Southern Ute and Ute Mountain Ute Indian Tribes have lived on tens of thousands of acres of land for which water has been unavailable. In fact, the Ute Mountain Ute Indian Tribe at Towaoc does not even have a domestic water supply and all of their drinking water must be trucked in. However, at the time these reservations were set aside by Congress, it was implied that water was reserved to these reservations to make the Indians' land economically feasible for them to live on it. These water rights have not been adjudicated and generations of Indians have suffered because of it.

Because the Animas-La Plata Project contains both Indian and non-Indian water rights, the parties which will be affected by the Indians' reserved water rights have been forced to talk, and talk very specifically, about what the Project would mean in regard to these rights. The resultant document, the "Agreement in Principle," is based on the premise that the Animas-La Plata Project will be built, and when that Project is built, there is an agreed water allocation which should allow both Indian and non-Indian water users to utilize the scarce water resources in the most beneficial way. Every party had to give up something in order to make this Agreement in Principle work. It was thought to be an impossibility that this Agreement would be signed, and yet it is now a reality, an historical document in terms of Indian water negotiation.

The Tribes have no doubt, nor should they, that if they go to court, the legal precedent is on their side to secure water rights for them. It is highly likely that if their water rights are adjudicated that many non-Indian water users will be unable to irrigate their otherwise fertile lands and their farms and ranches will be virtually valueless. The economic hardship and deprivation which would result to this area would be incalculable.

It is my understanding that the President has authorized $1,000,000 for a construction start in the F.Y.'87 budget on the Animas-La Plata Project. I suggest to you that because of the delays of the Animas-La Plata Project, almost twenty years, that this body cannot begin too soon to make an economic as well as a moral commitment to the Animas-La Plata Project.

I have appreciated your courtesy and kindness to my district and to other water users in southwest Colorado on whose behalf our delegation appears. We need, however, a firm long-term commitment and not just a one-year commitment to the Animas-La Plata Project. It will solve most of our water problems, and it will help us reach almost all of our goals. This is a project which cannot be completed without assistance from this government, and while I know this is a tight budget year, if the Project is not built, and when the Indian water rights are adjudicated, the economic deprivations to this part of the state will cost far more in social services, litigation, and economic depression than the Animas-La Plata.

Thank you for your assistance.

STATEMENT OF THE CITY OF FARMINGTON, NM

SUMMARY

The City of Farmington requests construction funding for the Animas La Plata Reclamation Project in Southern Colorado to be included in the 1987 fiscal year appropriations in the sum of not less than One Million Dollars ($1,000,000).

STATEMENT

For the past year, all the non-federal entities involved in the Animas La Plata Project have diligently striven to comply with the requirements in the 1986 FY Appropriation Act. That act required that a cost sharing agreement be reached with the Secretary of Interior on this project by June 30, 1986 as a condition to the use of the 86 FY. appropriation. The negotiations with the Secretary of the Interior were not fruitful. However, the States and the local entities continued a diligent effort and they were successful in reaching an agreement among themselves concerning many complex legal equitable and cost sharing issues tied in the Animas La Plata project. Those issues included Indian water rights settlement, sharing the use of various sources of water in New Mexico and cost sharing. These issues were difficult and complex, but we were successful.

On March 27, 1986 Senators Dominici, of New Mexico, and Armstrong, of Colorado, delivered the proposed settlement of all Indian water rights and water issues including the cost sharing proposal to Secretary Hodel. That settlement and the proposal was prepared and signed by the States of Colorado and New Mexico, the local entities in both States, and the two Indian Tribes. The scope of the agreement included many crucial subjects. There are long lasting effects that will be of great benefit to the United States as well as a benefit to the parties.

The two Indian Tribes, the State of Colorado, and all affected Colorado water users have negotiated the settlement of the Indian water rights in at least seven different rivers and have obtained significant cost sharing contributions from each of the parties in Colorado.

The State of New Mexico has assisted the local entities in New Mexico to reach an agreement on the funding of the cost sharing obligation through local tax levies and other considerations, including the creation of the San Juan Water Commission, the sharing of the use of the water from their project and other sources among all affected water using organizations in New Mexico.

These agreements have been hard to achieve. Everybody has reached deep into their resources and have given up important rights and foregone significant benefits in order to achieve the agreement, with the cost sharing, as offered to the Secretary of Interior. Wide spread support has been expressed for the acceptance of the proposal some of which are attached hereto.

We believe that this good faith effort should be sufficient to justify proceeding with the funding for FY 1987 in order to avoid losing the benefit of these hard won agreements. The United States and these parties supporting the Animas La Plata project will never again have the same opportunity to solve these important issues on such a favorable basis, and also be able to achieve that significant amount of cost sharing that is provided by each of the States and the local entities.

THIS IS A UNIQUE SITUATION, THE SOLUTION TO WHICH REQUIRES YOUR SUPPORT.

STATEMENT OF THE UTE MOUNTAIN UTE TRIBE OF INDIANS

My name is Ernest House, I am Chairman of the Ute Mountain Ute Tribe of Indians. My predecessors and I have traveled back to Washington for over eighty years to testify on the critical water needs of the Ute Mountain Reservation. As of now, this effort has been to little avail. In order to attempt to change the historical non-action on the part of the Federal Government to meet their trust responsibilities to our reservation the Ute Mountain Tribe has been actively involved in settling our Tribe's reserved "Winters Rights" claims by actively participating in what has begun to be called the "Colorado Ute Tribes Water Rights Negotiations." After completing a year of extremely arduous and expensive negotiations an "AGREEMENT IN PRINCIPLE" has been reached. All the parties to this agreement have negotiated in good faith and a mutually beneficial settlement and cost sharing agreement have been developed and agreed to by the parties. The settlement agreement provides for total relinquishment of the Tribe's claims and damages against the Federal Government which have been estimated to be valued at well over 100 Million Dollars. The Cost-Sharing Agreement provides for over 238 MILLION DOLLARS in commitments by local and state and tribal entities to either build or defer construction of some project features. This project will be mutually beneficial to all the residents of Southwestern Colorado and Northwestern New Mexico by resolving these long standing Tribal "Winters Claims," and by providing adequate water resources for the future growth and development of the entire area. Historical commitments made by the United States Government and the Congress in the Colorado River Storage Projects Act and the Colorado River Compact will also be fulfilled. As an integrated Indian Water Rights settlement with substantial local and state cost-sharing when put in the context of the historical commitments which have been made to both Tribal and non-Indian citizens, this project is THE BEST ALTERNATIVE AVAILABLE.

After negotiating for over a year in good faith with the other parties, the federal government has decided to change the rules regarding the Animas-LaPlata Project Cost-Sharing Agreement and his indicated that although the parties have come up with 238 Million Dollars which is well within the original 200--300 cost-sharing limit imposed by the Secretary of Interior, that the Dept of Interior now does not support the Animas-LaPlata Project on cost/benefit grounds. The Ute Mountain Tribe is adamantly opposed to this 9th inning rule change and furthermore believes that when the benefits derived by settling the two Tribe's reserved Winters Rights Claims are factored into the cost/benefit analysis that the Animas-LaPlata Projects cost/benefit ratio would be elevated to a much higher level which provides more than sufficient justification for this project. Support and continued funding from this committee for the Animas-LaPlata Project is absolutely essential to the settlement of the Ute Mountain Tribe's water rights settlement and to the delivery of safe drinking water to the reservation. Under the "AGREEMENT IN PRINCIPLE" the State of Colorado has agreed to contribute 11 Million Dollars to the two Tribes of which 6 Million would be used to build the Towaoc Municipal Pipeline. Currently, drinking water for the community of Towaoc is being hauled 30 miles by truck from Cortez, Colorado and distributed in 5-10 gallon water cans to the 1400 residences on the reservation. Without the settlement which includes the Animas-LaPlata Project, this pipeline will not be built. Your support on providing funding for this project would be greatly appreciated.

I appreciate the opportunity to bring this critical situation before you.

STATEMENT OF THE ANIMAS-LA PLATA WATER CONSERVANCY DISTRICT

I am Pat Greer. I am a farmer around the "Dryside," and I am here today on behalf not only the Animas-La Plata Water Conservancy District, but also all dryland farmers in our area who will receive irrigation water from the Animas-La Plata Project. Unlike many federal undertakings, water projects are not limited to supplying a capital-intensive improvement, in addition, they ensure that those who receive the benefits share in the repayment. I am more than eager to assist in any such reimbursement of cost in order to bring into long-awaited reality the Animas-La Plata Project.

As a farmer, I have spent many years planting crops and watching them grow, and ultimately blow away in dust, because I have not had a confirmed, dependable source of irrigation. My land is both partially irrigated and dryland. The irrigated portion is the most frustrating to deal with because the water source is undependable and water delivery is sporadic. However, I do not complain. This is a way of life that I have chosen. However, I can see that there is great opportunity for those who have water storage from which to dip into at those crucial moments. The Animas River has never had a shortage in the history of quantifying its water rights. The Animas River is a water drain whose excess water could be used to the benefit of people who live over the ridge from it. I am one of those persons. The La Plata River, our source, runs dry every year. Additionally, the La Plata River is subject to an interstate compact which was formulated during unseasonably wet seasons. Therefore, the Colorado commitment for water delivery on the La Plata River has never been realistic. The Animas-La Plata Project will help rectify this very terrible imbalance. Our neighbors to the south in New Mexico suffer as much as we do from the sporadic water supply.

We have joined hands and erased our previous differences in the hope that a show of solid support for the Animas-La Plata Project will convince you not only of our great need for it, but also of a community resolve to assure you that this Project and this water will be paid for.

It is my understanding that the President's budget contains $1,000,000 for construction start of the Animas-La Plata Project in F.Y.'87. This Project has been unduly delayed, in fact, now for almost twenty years from the date of its first authorization in 1968. Colorado River water development projects were authorized to occur simultaneously. So it is seen as crucial in our eyes, given the extent of development of the Central Arizona Project, that the Animas-La Plata Project be proceeded with all due haste.

We appreciate your consideration of our request and would appreciate even more your actual recommendation that the F.Y.'87 budget contain $1,000,000 for the Animas-La Plata Project. Thank you.

STATEMENT OF THE LA PLATA (CO) COUNTY BOARD OF COUNTY COMMISSIONERS

I am Doris Brennan, Chairman of the La Plata County Board of County Commissioners. Our county encompasses most of the area which will be served by the Animas-La Plata Project. We in the County view this Project as the key factor to the future economic well-being of La Plata County. We are a small area. The City of Durango has a population of approximately 14,000, and La Plata County contains 35,000 people. There has been great growth over the last decade. However, much of that growth comes from new residents who have decided to retire here. While we welcome all new residents and conscientious citizens, we need to assure that there is some intrinsic economic growth from within the community rather than dependence upon outside money or an influx of population.

While opponents of the Project would have you believe that La Plata County will grow in an uncontrolled manner because of the water project, that quite simply is not true. As a La Plata County Commissioner, I am aware that in our County it is not the developers who need water but the farmers. The developers have the wherewithal to buy water or augment it. Project water, such as that which will be developed through the Animas-La Plata Project, will be tied directly to agriculture and will help us to assure that the backbone of this County, which is the small family farm, will continue. To our great dismay we have seen many of our friends lose their farms because of the poor economic times, particularly for the dryland farmers who have no consistent water supply. They are not facing economic hard times because they have purchased big equipment at high rates of interest, or because they have been land greedy. In fact, most of these ranchers and farmers are descendants of homesteaders and have done nothing more than show a loyalty to a way of life which cannot continue to exist unless they have a constant supply of irrigation water.

I have grown up and spent all my life in La Plata County. I have seen the cyclical nature of the economy in this corner of Colorado. If we had the Animas-La Plata Project to generate a sound basis for agriculture and provide additional recreational opportunities, it is my opinion that the economy of La Plata County would become more stable and less subject to the whim of outside forces.

As a politician, I am very aware of what people in my district are thinking. I know there has been some opposition to this Project, and some of it has been quite vociferous, but the majority of the people are concerned about storing our water for municipal and industrial, as well as agricultural, uses. Many people who originally opposed the Project have reversed their position, because of the widespread economic benefit which will emanate from the construction of this water storage project. We are proud of what has been accomplished in the Agreement in Principle. To us it is one more example of people's willingness to sacrifice so that a project which will benefit this entire community can be built. I am hopeful that this body will continue to give us its support. I reaffirm my colleagues in requesting a $1,000,000 budget allocation for the construction of the Animas-La Plata Project in F.Y.'87, and I wish to assure you that my two colleagues on the Board of County Commissioners echo my heartfelt and unqualified support for this Project.

RESOLUTION OF LA PLATA COUNTY, CO

WHEREAS, the proposed Animas - La Plata Project is a water project designed to promote the beneficial use of water in the Four Corners Region, and specifically in La Plata County; and,

WHEREAS, the Animas - La Plata Project will provide water for irrigation of arid agricultural land and thereby facilitate the further development of agriculture and will establish and maintain a firm agriculture base for present and future generations of residents of La Plata County; and,

WHEREAS, the Animas - La Plata Project will supply water needed by the Southern Ute Indian Tribe and the Ute Mountain Ute Indian Tribe so that they can maintain agricultural, industrial and cultural self-sufficiency and also provide a reasonable basis for settlement of Indian water rights claims; and,

WHEREAS, the Animas - La Plata Project insures an adequate, dependable supply of water for the City of Durango and the surrounding area at a reasonable cost and will also provide critically needed storage for use by Durango and numerous other municipalities in the Four Corners area; and,

WHEREAS, the creation of two reservoirs in the Animas - La Plata Project area will substantially increase the recreational opportunities for residents of and tourists in La Plata County by providing new facilities for boating, fishing, picnicking, and camping; and,

WHEREAS, the creation of two reservoirs in the Animas - La Plata Project area will enhance and preserve the natural beauty of La Plata County; and,

WHEREAS, the Animas - La Plata Project will accommodate the future growth in population in La Plata County by conserving water which would otherwise be appropriated elsewhere; and,

WHEREAS, construction of the Animas - La Plata Project will create jobs for residents of La Plata County, said County having been an area in serious need of increased employment opportunities for many years; and,

WHEREAS, La Plata County has grown and prospered through agriculture, mining, tourism, and the unique combination of these industries has produced a quality of life that should be preserved; and,

WHEREAS, the Animas - La Plata Project has been a dream of generations of La Plata County residents; and.

WHEREAS, in addition to the many benefits of the Animas - La Plata Project as noted above, it is the judgement of the Board of County Commissioners of La Plata County that the Project will enhance the tax base of La Plata County and will greatly increase sales tax and other tax revenues all to the benefit of the citizens of La Plata County,

NOW, THEREFORE, BE IT RESOLVED that because the Animas - La Plata Project will contribute to the welfare, health, recreation, prosperity and quality of life of present and succeeding generations of La Plata County residents, the Board of County Commissioners supports the Animas - La Plata Project and commits itself to assist in bringing the project to reality.

BE IT FURTHER RESOLVED that copies of this Resolution be sent to the Governor of the State of Colorado and all members of the Colorado congressional delegation.

DONE AND ADOPTED in Durango, Colorado this 11th day of April, 1986.

SEAL

BOARD OF COUNTY COMMISSIONERS

Doris A. Brennan
Doris A. Brennan, Chairman

R T Scott
R. T. Scott, Vice-Chairman

R A Roth
Rollie A. Roth, Commissioner

ATTEST: Carl DeMari
Deputy Clerk to the Board

STATEMENT OF THE CITY OF DURANGO, CO

Mr. Chairman and Members of the Committee:

Thank you for meeting with us.

I know that you are exceedingly busy. I am Ann Brown, Mayor of the city of Durango, Colorado, located in La Plata County.

Our municipality is scheduled to receive 2,500 acre-feet of water from the Animas-La Plata Project. I am a supporter of the Animas-La Plata Project. An independent study performed by water engineers, Black & Veatch, recommended City participation in the Animas-La Plata Project to meet the next generation's water needs in preference ~~to the~~ development of alternative sources of water. A significant conclusion of the study was that the Animas-La Plata's economic impact would be far-reaching and of benefit to the entire Four-Corners Region. Additionally, it has been demonstrated that if the Southern Ute Indian Tribe's reserved rights claims on the Florida River were granted through litigation, Durango's municipal water supply would be severely impaired. There is even a possibility that there would be inadequate water to meet our basic needs in the summer if the Tribe's water rights need to be adjudicated.

The City of Durango, therefore, needs the Animas-La Plata Project. It is a project which will meet our municipal water requirements for decades to come. The City of Durango is not unmindful of our interdependence on other entities within the County and, in fact, with other towns and businesses across state lines in New Mexico. Because of our remote location, the mountains to the north and undeveloped reservation lands to the south, we tend to rely quite heavily on the goodwill of all of our neighbors. Among these neighbors, with whom we most need to work, are the Ute Mountain Ute and Southern Ute Indian Tribes. I was afforded a unique opportunity to be an integral part of the negotiations which led to the historic Agreement in Principle. I was made chairwoman of the meetings which occurred throughout 1985 and early 1986. Because I was a part of these negotiations, I was allowed to view the sacrifices and commitments which were made on all sides in order to further the progress of the Animas-La Plata Project. I had the sense when we first began that the Administrative people did not feel that we could reach a successful conclusion. The Agreement itself represents not only our good faith and trust in our neighbors, but also illustrates the concept that the needs of the group as a whole must supercede individual needs and individual claims.

The Animas-La Plata Project must be built if we are to avoid a costly court battle over the reserved Indian water rights. It is imperative that this august body recognize that the entire economic and social fabric of this area will be irreparably torn if the Indian water rights case goes to court, and if those reserved rights supercede the prior appropriation water on which our entire agricultural community depends. It is not the intent of our Indian neighbors to undermine the agricultural community, but who can blame the Tribes in protecting their own rights. Therefore, it is doubly important that the Animas-La Plata Project be awarded construction funding for F.Y.'87. It is, first, important because of the intrinsic worth of the Project itself. It is secondly important because it represents our only opportunity for peaceful negotiation of an extremely damaging issue: reserved Indian water rights.

I was reared in the part of Colorado which is to be benefitted by the Dolores Water Project. I can already see the change in the people in that area in terms of their anticipation, and their commitment to the future of their community. I can only assume that that same enthusiasm will be attendant upon the Animas-La Plata Project.

Unless we in southwest Colorado are able to secure an economic base that is not dependent on outside forces, we will never be able to secure our future or that of our children. The development of the Indian coal and mineral reserves on the reservation will mean self-determination for the local Tribes. This should not over-shadow the need for the economic self-determination for all citizens of this very isolated corner of the state. I request that you please give careful consideration to allocating $1,000,000 in F.Y.'87 for construction of the Animas-La Plata Project.

Thank you so much for your time.

RESOLUTION OF UPPER COLORADO RIVER COMMISSION

WHEREAS, the Animas-La Plata Project is a participating project of the Colorado River Storage Project; and

WHEREAS, the Secretary of the Interior was directed "to proceed as nearly as practicable with the construction of the Animas-La Plata [Project] . . . concurrently with the construction of the Central Arizona Project to the end that such project shall be completed not later than the date of the first delivery of water from said Central Arizona Project . . . ."; and

WHEREAS, the first delivery of water to the Central Arizona Project has already been made but construction has not yet started on the Animas-La Plata Project; and

WHEREAS, in 1985 the United States Congress appropriated $1 million for a construction start on the Animas-La Plata Project contingent upon non-federal interests entering into a reasonable up-front financing/cost-sharing agreement with the Secretary of the Interior by June 30, 1986; and

WHEREAS, the United States Departments of the Interior and of Justice subsequently required that an up-front financing/cost-sharing arrangement for the project be taken up as a part of the settlement negotiations which the State of Colorado had initiated with the Ute Mountain Ute and Southern Ute Indian Tribes concerning the tribes' reserved water rights claims in Colorado; and

WHEREAS, an "Agreement in Principle on the Settlement of Colorado Ute Tribes Reserved Water Rights" was entered into on March 14, 1986, by the State of Colorado, the two tribes, and five Colorado water conservancy and conservation districts, which Agreement includes a non-federal up-front financing/cost-sharing proposal; and

WHEREAS, the said proposal is responsive in all regards to the parameters for non-federal financing and cost-sharing set forth in President Reagan's January 24, 1984, letter to Senator Paul Laxalt and meets or exceeds the percentage contributions required of non-federal interests for other federal water resources projects and Indian reserved water rights settlements:

NOW, THEREFORE, BE IT RESOLVED by the Upper Colorado River Commission that it strongly urges the Secretary of the Interior to approve the said proposal and enter into the required contract by June 30, 1986;

BE IT FURTHER RESOLVED that the Commission directs its Secretary to forward a certified copy of this resolution to the Secretary of the Interior, the congressional delegations of the Upper Division States, and such other Federal and State officials as he deems appropriate.

CERTIFICATE

I, GERALD R. ZIMMERMAN, Executive Director and Secretary of the Upper Colorado River Commission, do hereby certify that the above Resolution was adopted by the Upper Colorado River Commission at an Adjourned Regular Meeting held in Salt Lake City, Utah on April 2, 1986.

STATEMENT OF NEW MEXICO INTERSTATE STREAM COMMISSION

SUMMARY

This statement is submitted in support of appropriations for the construction and operation and maintenance of water resource projects authorized to be built by the Bureau of Reclamation and in support of appropriations for additional project investigations by the Bureau.

I fully support the President's fiscal year (FY) 1987 budget proposal for water resources projects of the Bureau of Reclamation in New Mexico and other states in which New Mexico has an interest.

STATEMENT

BUREAU OF RECLAMATION

Colorado River Storage Project and Participating Projects

The Colorado River Storage Project Act, which became law in 1956, authorized a carefully planned and farsighted program for the development and use of waters of the Upper Colorado River Basin. To carry this program forward the President has recommended that $123.694 million, including $1.0 million for the Animas-La Plata Project in Colorado and New Mexico, be appropriated to the Bureau of Reclamation for FY 1987. The Animas-La Plata Project, authorized for construction as a participating project in 1968, would provide municipal and industrial water supplies for communities in New Mexico and Colorado, irrigation water supplies for use in both states and settlement of the water rights claims of the two Ute Indian Tribes in Colorado.

I fully support the President's FY 1987 budget proposal for the Colorado River Storage Project and participating projects.

Central Arizona Project

The Colorado River Basin Project Act, Public Law 90-537, enacted in 1968, authorized construction of the Central Arizona Project in Arizona and New Mexico. The President's FY 1987 budget proposes $145.596 million to continue construction of this project. The Hooker Dam and Reservoir unit, or suitable alternative, in southwestern New Mexico is authorized for construction as a unit of the Central Arizona Project. The President's proposed budget includes $822,000 to continue Stage II studies on this unit. I support the President's FY 1987 budget proposal for funding the Central Arizona Project.

Brantley Dam and Reservoir

The President's FY 1987 budget includes $23.65 million for continued construction on the Brantley Dam and Reservoir Project in New Mexico. The primary purpose of this project is to provide flood protection in the vicinity of the City of Carlsbad. Brantley Dam will replace the unsafe McMillan Dam which was reconstructed by the Reclamation Service in 1908, and will provide additional capacity for storage of flood waters. I support the President's FY 1987 budget proposal for this project.

Velarde Community Ditch Project

The President's FY 1987 budget includes $2.28 million to continue construction for replacement of existing and deteriorated diversion facilities and for rehabilitation of deteriorated canal structures. I support the FY 1987 budget proposal for this project.

Colorado River Salinity Control Project, PL 93-320, Title I

The President's FY 1987 budget includes a total of $26.427 million for continued construction of the Yuma Desalting Plant and other salinity control facilities. I support the President's FY 1987 budget proposal for this program.

Colorado River Basin Salinity Control, PL 93-320, Title II and Colorado River Water Quality Improvement Program

The President's FY 1987 budget includes $4.1 million for construction of three salinity alleviation units authorized by Title II of PL 93-320, Grand Valley, Paradox Valley and Las Vegas Wash Units. The President's budget also recommends $800,000 for advanced planning of two additional units that would improve water quality and $3.62 million for general investigations of other potential salinity control programs. I fully support the President's FY 1987 budget proposal for this program.

Closed Basin Division, San Luis Valley Project, Colorado

The President's FY 1987 budget includes $12.594 million for continued construction of the Closed Basin Division. Work will include construction of the Stage 4 canal, land acquisition, cultural resources and additional laterals. The project will facilitate Colorado's delivery of water in the Rio Grande to downstream states and Mexico. I support the President's proposed FY 1987 budget for this project.

General Investigations

The proposed Bureau for FY 1987 includes $150,000 for general investigations on the Alamogordo M&I Water Supply Project, Alamogordo, New Mexico. I support the President's FY 1987 budget this general investigation.

Operation and Maintenance Program

I support the President's FY 1987 budget for operation and maintenance for the following Bureau projects in New Mexico and in adjacent states in which New Mexico has an interest; 1) Carlsbad Project, $55,000; 2) Brantley Project, $130,000; 3) Pecos River Basin Water Salvage, $350,000; 4) Rio Grande Project, $3,325,000; 5) Middle Rio Grande Project, $7,839,000; and 6) San Luis Valley Project, $954,000; a total of $12.653 million. I support the President's FY 1987 budget proposal for operation and maintenance of these projects.

The opportunity to present this statement in support of appropriations for the Bureau of Reclamation is sincerely appreciated.

PACIFIC NORTHWEST WATER RESOURCE PROJECTS

STATEMENT OF PEGGY BIRD, EXECUTIVE DIRECTOR, PACIFIC NORTHWEST WATERWAYS ASSOCIATION

Senator DOMENICI. Peggy Bird, executive director, Pacific Northwest Waterways Association; Chan Bailey, executive-secretary, Columbia Basin Development League; and Hank Soike, general manager, Port of Grays Harbor.

Could we have those three witnesses here, please?

Ms. BIRD. Good morning, Mr. Chairman,

My name is Peggy Bird. I am executive director of the Pacific Northwest Waterways Association.

Senator DOMENICI. Welcome.

Ms. BIRD. Thank you. I appreciate the opportunity to present our testimony to you today. I have submitted to the committee detailed testimony. Rather than read my testimony, I will briefly make a few comments and request that it be submitted into the record.

Senator DOMENICI. The statement will be made a part of the record.

Ms. BIRD. Thank you. I am here today to do a couple of things. First of all, to support the fiscal year 1987 budget proposal for the Corps of Engineers and to support the Bureau of Reclamation's Pacific Northwest region 1987 budget request; and also to express our appreciation for this committee's efforts to finance the replacement for the Bonneville navigation lock on the Columbia River, and for the work related to Mount St. Helens, two of the high priorities from my regional association.

I would also like to thank you for your efforts to continue the Yakima River basin project in Washington State and the continuation of the studies for the second half of the Columbia basin irrigation project, also in that State.

We have, as you may know, some problems in the Pacific Northwest with our economy lagging the recovery of the rest of the Nation, and in Alaska, another State represented by my association, recent oil price drops have hit the State particularly hard.

One request that we have of the committee, and that we have in our testimony, requested that you look at the addition of some new CP&E studies in 1987 because we believe that the lack of those new starts in budget will have a negative impact on the future economic development of the region.

I will call your attention to a couple of specific things. Again, the Bonneville Lock on the Columbia River has been a high priority for replacement because it is the smallest of locks and dams on the river. The upgrading of that lock, we hope, will soon become a reality.

The Corps of Engineer's budget in this year includes an appropriation of $20 million—$10 million from the general fund and $10 million from the inland trust fund—for the cost sharing, and we urge support for this important project.

I would also call your attention to a couple of projects in Washington State, two requests for reconnaissance studies for the Port of Olympia and for the Port of Bellingham, $150,000 apiece. They are included in the budget. Additional moneys are needed for two studies: one for the Columbia River and tributaries study, and one for a reconnaissance study at Coos Bay on the southern coast of Oregon.

The rest of my testimony has been submitted and I will conclude at this point.

Thank you, again, for the opportunity to be before you today.

Senator Domenici. Thank you very much, Ms. Bird. It is a pleasure to have you here, and I appreciate your brevity. Your statement will be incorporated in the record.

I noticed it is a few pages. [Laughter.]

Ms. Bird. One or two.

Senator Domenici. You must have a few projects out there.

Ms. Bird. One or two.

Senator Domenici. Indeed, one or two. I understand, they were equally distributed between Oregon, Washington, and other States.

Ms. Bird. In an historic perspective, yes, I would suspect they have been distributed depending on who is sitting in that chair. [Laughter.]

Senator Domenici. I understand, that's why I made the point. I think that is good.

[The statement follows:]

STATEMENT OF THE PACIFIC NORTHWEST WATERWAYS ASSOCIATION

Mr. Chairman, members of the committee, my name is Peggy Bird. I am the Executive Director of the Pacific Northwest Waterways Association. On behalf of the members of the Association, I'd like to thank you for this opportunity to present our testimony to you today.

PNWA is a regional association with membership in five states--Alaska, Idaho, Montana, Oregon and Washington. For 52 years we have supported the planning for and the appropriate development of water resources in our region for transportation and navigation, flood control, power generation, agriculture and irrigation, commerce and trade, recreation and fisheries--a multiple use concept that balances the interdependent uses of our waterways resources.

I am here today to do five things:

1. To support the FY '87 budget proposal for the North Pacific Division, U. S. Army Corps of Engineers,

2. To express our appreciation for your efforts to fund the replacement of the navigation lock at Bonneville Dam and the sediment retention structure on Mt. St. Helens and to urge continued support for these two very important regional projects,

3. To support the FY '87 budget proposal for the Bureau of Reclamation's Pacific Northwest Region,

4. To convey our thanks for your efforts to fund the Yakima River Basin Enhancement Project and the studies for the second half of the Columbia Basin Irrigation Project in Washington state, and to urge your continued support for those projects,

5. To request your consideration of additions to the Corps of Engineers' budget for such projects as the Columbia River and Tributaries (CR&T) study (which is a continuing project) and a new start for a reconnaissance study of the Coos Bay, Oregon deep draft navigation channel.

As we have done in the past, PNWA supports the Corps of Engineers' budget for FY '87. The $262.6 million request, although it maintains O&M and on-going studies and construction projects on schedule, is $28 million less than the North Pacific Division's FY '86 budget. The budget categories for reconnaissance studies, continuation of planning and engineering (CP&E) and advance engineering and design (AE&D) have all been reduced for FY '87. As you may know, the economic recovery of the Pacific Northwest has lagged that of the rest of the country. And recent oil price drops have hit Alaska particularly hard. The lack of new study, CP&E and AE&D starts will, we believe, have a negative impact on the future economic development and growth in our region.

On a positive note, we very much appreciate the Congress' action to add monies for the Bonneville navigation lock and the sediment retention structure on Mt. St. Helens to the 1985 Supplemental Appropriation. The upgrade of the Bonneville lock has been one of PNWA's top priority issues for some time. The lock is the oldest and the smallest on the Columbia/Snake River System and has been a bottleneck for barges transiting the river. With on-going appropriations for the replacement of the lock, the Corps of Engineers can proceed on schedule so that the lock will be upgraded to meet increases in shipping on the system, heading off congestion of grid-lock proportion.

We support the FY '87 appropriation for $20 million (50% from the general fund, 50% from the Inland Waterways Trust Fund) to continue this urgently needed project.

Another high priority for PNWA is the construction of the sediment retention structure (SRS) on Mt. St. Helens. As you know, the 1980 eruption of the Mt. St. Helens volcano has cost millions of dollars a year in dredging to keep the Columbia River navigation channel open and to reduce the threat of flooding in Southwest Washington state. We urge your continued support of funds for this temporary measure (budgeted this year at $10 million) until the permanent solution--the sediment retention structure--can be constructed. Although we are fortunate that unusually low water years in the region have spared us major flood damages, we are most concerned that the appropriation of funds continue in a timely manner so that the Corps can proceed with the SRS project to avoid catastrophic flooding. This project will not only eliminate the threat of flooding but will save millions of dollars over the years in appropriations for channel dredging.

We also support the Bureau of Reclamation's proposed budget for FY '87. Two projects are of particular interest to PNWA--the Yakima River Basin Enhancement Project and the studies for the completion of the Columbia Basin Project.

The Yakima Basin Project appropriation for $12 plus million for FY '87 will complete fishway and/or screen structures at five irrigation diversion dams and begin preconstruction or contract awards for five others. The appropriation for the Columbia Basin Project includes monies for the completion of the EIS on the second half of the project.

Finally, we would request your consideration of additional funds for the North Pacific Division, Corps of Engineers for studies and projects for which the Division has approved capabilities. We would request an additional $1,821,000 for those studies (outlined more completely in the Appendix to my testimony). I call your particular attention to the Columbia River and Tributaries and Coos Bay studies.

The continuation of the CR&T study is included in the FY '87 budget at $1.8 million. The study, which is investigating potential programs and projects to develop additional water storage in the Columbia Basin, will continue to look at needed water storage this year on three rivers and at navigation on the middle Columbia. An additional $50,000 could be used to study flood control on the lower Columbia where flood-prone areas exist with weak or inadequate levees. That small addition would advance those much-needed studies by six months. PNWA supports the additional $50,000.

The second study I would call to your attention is not included in the FY '87 budget. We would request, therefore, the addition of $250,000 for a new study start of the Coos Bay deep-draft navigation study. Coos Bay, on the southern Oregon coast, has been most hard hit by the down turn in the timber industry. However, the port has worked very hard to diversify and increase shipping. Their success is limited by constriction of the existing Federal deep-draft channel and a narrow railroad bridge. PNWA supports funding for the recon study for Coos Bay and urges the additional appropriation of $250,000 by the Congress.

Again, Mr. Chairman and members of the committee, I very much appreciate this opportunity to present PNWA's views to you. If I can answer any questions or provide additional information to you, I would be glad to do so.

U.S. ARMY CORPS OF ENGINEERS
APPENDIX I
TO
PACIFIC NORTHWEST WATERWAYS ASSOCIATION
TESTIMONY TO
SUBCOMMITTEE ON ENERGY & WATER DEVELOPMENT
OF THE COMMITTEE ON APPROPRIATIONS

APRIL 15, 1986

U.S. ARMY CORPS OF ENGINEERS 01 April 1986

BUDGET COMPARISONS

The Corps FY 1987 budget request to Congress totals $262,608,000 to continue activities in the Pacific Northwest and Alaska. The following budget comparisons for programs in the Pacific Northwest and Alaska have been furnished to us by the Corps.

Appropriation Category	FY 1986 Allocations	FY 1987 Program	Change From FY 1986 To FY 1987
GI-Studies	$ 6,888,000	$ 5,999,000	$ -889,000
GI-CP&E/AE&D	4,531,000	2,067,000	-2,464,000
Const., General	125,121,000	99,300,000	-25,821,000
O&M, General	154,000,000	155,242,000	+1,242,000
Totals	$290,540,000	$262,608,000	$-27,932,000

The total budget request for FY 1987 is about $28 million less than the amount allocated for FY 1986.

IMPACT OF BUDGET PROGRAM

- PNWA is pleased that the funding levels that are budgeted are adequate to maintain schedules at ongoing studies and construction projects. However, PNWA is disturbed by the lower level of funding for certain other appropriation categories and the absence of funding for other specific projects. These will be discussed in the following sections.

FISCAL YEAR 1986 PROGRAM

PNWA is appreciative of the foresight of the Congress in adding additional funds in FY 1986 for one study, one construction project, and five O&M

projects, all in the North Pacific Division. We also appreciate the addition of the Bonneville Navigation Lock and the Elk Creek Lake to the Fiscal Year 1985 Supplemental Appropriations which funds are included in the Corps FY 86 Program. The authorization for construction of the sediment retention structure at Mt. St. Helens is a major step towards relieving the significant flooding and navigation problems downstream of the mud flows from the eruption in May 1980.

NEW STARTS

PNWA believes that new study, CP&E and AE&D starts involving hydroelectric power, navigation and flood control should rank high in the budget program for the Corps and other Federal agencies and is encouraged by the two new study starts, one CP&E new start and one construction new start recommended for FY 1987. The PNWA was disappointed by the absence of any new study, continuation of planning and engineering, and advance engineering and design starts in the budget request for the Corps of Engineers program in the Pacific Northwest and Alaska for FY 1986. The restrictions on new study, CP&E, and AE&D starts combined with constrained funding levels of these programs will have a serious impact on the future economic growth and welfare in this region. We feel strongly that the level of funding of this important program will have a significant impact on the immediate employment, energy, and water supply of the region. We feel the Corps should continue to be funded for new starts in FY 1987 and beyond and fully support the recommended New Starts in the FY 87 program.

SMALL PROJECTS PROGRAM

We note that the President's budget for FY 1987 for the Small Projects Program of the Corps of Engineers has decreased slightly over the preceding years. Under this program, the Corps is able to respond quickly and efficiently on projects where the Federal cost is less than $2 million for Section 107 navigation projects and less than $4 million for Section 205 small flood control projects. This program permits the Corps to meet small, but urgent navigation and flood control needs and to cooperate with local interests in needed public works. We encourage continued budgetary support for this program.

WATER SITUATION IN THE PACIFIC NORTHWEST

PNWA is encouraged that current forecasts show a near normal year for water supplies in the Pacific Northwest. The water supply forecast is slightly below the 20 year average. January was below average but February turned around and was much above normal therefore bringing an earlier below normal forecast up to be a near normal forecast.

Reservoirs have been lowered in preparation for the annual spring snowmelt. Surplus energy has been and is continuing to be marketed outside the region. Looking ahead to this spring and summer, the current water supply forecast based upon basin snowpack measurements indicate a slightly below normal runoff in most areas. However, there appears to be sufficient water to meet reservoir operational requirements and minimize conflicts over competing usage. Marketing of energy outside the Northwest will probably be reduced this spring and summer due to spilling water for fishery operations called for by the Northwest Power Planning Council's Fish and Wildlife Program.

We appreciate the way the Corps manages the critical issues on the use of water resources in the Northwest. There is a lot of planning and negotiations that are required to permit the best use of these resources and the Corps has a good handle on how to make the allocations work to the best interest of all parties. The Congress has wisdom in providing the Corps the funds necessary to operate this very complex system and PNWA appreciates that and requests that funding be continued.

Bellingham Harbor, Washington

Bellingham, Washington is a port city of 46,000 people located on the northeastern shore of Puget Sound. The Port of Bellingham handles about 2 million tons of commerce annually, including log shipments and ore and mineral imports, through four existing Federal navigation projects in

Bellingham Harbor. The Port has requested a Federal study of deepening Whatcom Creek Waterway to accommodate the larger vessels now serving Pacific Rim operations. A deeper channel would result in increased commodity movements since vessels would not experience the current tidal delays. Despite delays, vessel traffic in 1982 increased by 25 percent over the previous 10 years. Vessel drafts are expected to increase to 39 feet in the future. This will cause vessels to light load or experience additional delays.

We understand that Fiscal Year 1987 funds in the amount of $150,000 are being requested to initiate and complete a reconnaissance phase study to determine the Federal interest in deepening Whatcom Creek Waterway, including the need for any navigation improvements in other areas of the harbor as well. PNWA supports the Port of Bellingham request and strongly urges approval of the requested funds.

Homer Spit Erosion, Alaska

Homer Spit is located on Cook Inlet at the Mouth of Kechemak Bay and about 120 miles southwest of Anchorage. The economic base for the City of Homer depends on numerous facilities located on the spit, such as a 50-acre ($14 million) small boat harbor completed in 1984, a thriving deep-water port, commercial fish processing plants and fuel storage tanks. The spit is exposed to a severe wave climate and the state highway connecting the town on the mainland to these facilities has been severed on several occasions during storms. Since 1966 the state has expended more than $6 million for repairs to protect the highway. These efforts have only had limited success. The Corps study is addressing the coastal hydraulic processes affecting Homer Spit and long-term solutions to the erosion problems. Following completion of an agreement with the State of Alaska to share costs for this effort, FY 1986 funds will be used to initiate the feasibility phase of study. In FY 1987, funds will be used to complete the Federal share of the feasibility phase of study including preparation of a Definite Project Report.

The PNWA supports FY 1987 funds in the amount of $297,000 to complete feasibility studies addressing the serious erosion problems affecting the economic livelihood of the City of Homer, Alaska.

Olympia Harbor, Washington

Olympia Harbor, Washington is located on the southern shore of Puget Sound with port facilities presently handling about 1 million tons of commerce annually, mostly timber products shipped to Pacific Rim nations. The harbor is divided by a port-constructed peninsula into East Bay and West Bay. A Federal channel was dredged in West Bay to 500 feet wide by 30 feet deep in 1939. The port is actively expanding and diversifying its trade; however, existing and future waterborne commerce is limited by inadequate channel dimensions for the world fleet of vessels which call on the Port of Olympia. The port has requested a Federal study to determine the need for channel and turning basin deepening in West Bay, including the need for any other improvements to address navigation problems affecting the harbor.

We understand that $150,000 Fiscal Year 1987 funds are being requested to initiate and complete the reconnaissance phase of study to determine the need for Federal navigation improvements at Olympia Harbor. PNWA supports the Port of Olympia's study request and strongly urge your approval of the needed funds.

Rivers and Harbors in Alaska

The State of Alaska is experiencing an economic slowdown due to declining oil revenues; however, this situation is expected to be short term. Vast physical and economic changes are anticipated in the future based increasingly on the development and use of its natural resources. For example, growth in mineral exploration and extraction, diversification of the fishing industry to harvest bottomfish, and changed timber harvesting practice has accelerated need for navigation improvements.

The Rivers and Harbors in Alaska study is addressing current and potential future water resource problems and needs. In FY 1986 funds are being used to complete detailed feasibility studies for harbor and channel improvements at Akutan/Unalaska and King Cove Harbor to support development of an American bottom fishing industry. An interim study of shallow-draft navigation on the Yukon-Kuskokwim River system will be completed. Investigations of harbors to serve the Bristol Bay fishing industry and harbor improvements necessary to support the growing coastal oil and gas industry are being continued. FY 1986 funds are also being used to resume studies for communities experiencing coastal erosion problems and to identify harbors of refuge in southeast Alaska. FY 1987 funds will be used to continue work on harbor improvements for Bristol Bay, navigation improvements at coastal ports expected to serve oil and gas exploration, coastal erosion studies, and for the southeast harbors of refuge. In addition, funds will permit resumption of comprehensive studies of harbor improvements needed for development of mineral resources and to transmit general cargo to the interior of Alaska via new or existing ports in western Alaska. The PNWA strongly supports FY 1987 funds in the amount of $946,000 to continue and resume these comprehensive studies.

Bonneville Navigation Lock, Oregon and Washington

This proposed project consists of a new navigation lock at Bonneville Dam on the Oregon shore, south of the existing lock and powerhouse. The new lock chamber would have horizontal dimensions of 86 feet wide by 675 feet long, thereby matching the dimensions of the seven other locks on the Columbia-Snake River Navigation System. The new lock would accommodate vessels with a 14 foot draft.

Operation of the new navigation lock would eliminate delays and result in faster, more efficient movement of tows and barges through the Bonneville Project. Approach channel modifications would add a measure of safety for barge tows approaching the new lock. The Columbia-Snake River Navigation System could then be utilized to its full potential.

Initial funds for construction were appropriated in FY 1985, as part of the Supplemental Appropriation Act of 1985, Public Law 99-88. PNWA supports the program of $20,000,000 for FY 1987 to continue construction of this urgently needed improvement to the Columbia-Snake navigation system. These funds are to be derived by 50% from general appropriations and 50% from the Inland Waterways Trust Fund. We also encourage the Corps to complete this project by 1992 as currently scheduled.

Chief Joseph Additional Units

At Chief Joseph Dam on the Columbia River just upstream of Bridgeport, Washington, construction of an additional 11 hydraulic-turbine/generator units was essentially completed in 1979. However, the hydraulic-turbines for these units failed to meet the operating efficiency required by the contract and guaranteed by the manufacturer. In attempting to settle this issue the Corps directed the contractor to correct the deficiency. The contractor has offered a monetary settlement of $2.5 million which is considerably less than the cost of correcting the deficiency. This matter has not been resolved. Meanwhile, the power lost due to this inefficiency at the Chief Joseph project must be replaced in the power system by considerably more expensive thermally generated power, resulting in an estimated economic loss to the region of $6.5 million annually, or a present value of $75 million over the operating life of the units. The Corps indicated that correction of the deficiency is estimated to cost more than $25 million, and has a benefit/cost ratio of approximately 2.5 to 1.

PNWA understands that when a contractor refuses to comply with the contract provisions, the Government's contractual remedy is to have others perform the required work and bill its cost to the non-complying contractor when other settlement options are not adequate. This action would move the Government's dispute with the contractor past the present deadlock as well as eliminating the $6.5 million annual economic loss to the region. In order for the Corps to pursue this course of action, funding is necessary.

We encourage Congress to support a program which will correct the Chief Joseph turbine performance deficiencies and request that adequate funds be provided to the Corps to perform that work.

MT. ST. HELENS

PNWA thanks Congress for continuing the funding necessary to provide flood protection along Cowlitz River and construction of the Spirit Lake permanent outlet. We are pleased that the Corps of Engineers completed construction of the Spirit Lake Tunnel as scheduled in April 1985.

Drawdown of the lake to its safe operating level was completed in September 1985, and the tunnel is now fully functional.

Continuation of funding will be necessary to provide 100-year flood protection to developed areas along the Cowlitz and Toutle Rivers until such time as a permanent solution is provided, as authorized by the Supplemental Appropriations Act of 1983, PL 98-63. $10 million has been programmed for FY 1987 for providing this temporary emergency flood protection. Thus, we urge the Congress to include $10,000,000 in the FY 1987 appropriations as programmed by the Corps.

Since the major emergency restoration work was completed in 1981, the Corps of Engineers has spent an average of $30 million each year to provide marginal flood protection along the Cowlitz River. We have been spared major flood damages only because of unusually low water years in this area. We must expedite a permanent solution and avoid spending millions of tax dollars on dredging, and depending on temporary levees for flood protection which never really solves the fundamental problem.

We are pleased with the progress made in the past year toward implementation of a solution to the longer range sediment control problem associated with Mt. St. Helens. We commend Congress for authorizing construction of a single sediment retention structure at the Green River Site in accordance with the recommendations of the Corps feasibility report. Congress should follow this action with appropriation of the funds necessary to begin construction of the sediment retention structure. The Corps has programmed $17,000,000 to begin construction in FY 1987. We urge the Congress to include this amount in the FY 1987 budget. We also encourage the Congress to authorize the Corps to proceed with initial construction of this urgently needed project in FY 1986 with $1.4 million to be made available from previously appropriated funds. This will allow the Corps to proceed with site clearing and associated access road as well as dewatering work at the site.

Downstream Migration of Columbia and Snake River Fish Runs

The fishing industry which results from the fish runs in the Columbia and Snake River systems is critical to the economy of the Pacific Northwest. Assuring that fingerling fish can safely pass through or around the Columbia and Snake River dams on their downstream migration to the Pacific Ocean is essential to continuation of the fish runs in the Pacific Northwest.

In recent years it was demonstrated that a substantial percentage of downstream migrant fish are being killed as a result of passing through the power generating units at many of the large power projects on the Snake and Columbia Rivers. Increasing the efficiency of guiding downstream migrants away from the power units and into special downstream migrant bypass systems is critical to reducing these fish kills.

We thank the Congress for providing the resources for the Corps to construct downstream bypass facilities, and to continue research efforts to determine the best and most economical permanent solutions to this serious problem. With available funds the Corps plans to continue this work in FY 1987 at John Day, Bonneville, The Dalles, and the Snake River Projects.

The work at John Day includes the completion of a downstream migrant bypass system in time for the 1986 downstream fish runs, with the balance of the work being complete before April 1987 in time for the 1987 fish runs. This work was funded by Congress under Construction, General funding, and is also planned to be completed with available funding. We encourage the Corps to continue this vital work as expeditiously as possible.

With additional funds provided by the Congress in FY 1986, the Corps is proceeding with studies, testing and evaluation of various methods to increase the bypass efficiencies at the four Snake River projects and at The Dalles. We appreciate the Congress providing these funds and encourage the Corps to continue these investigations.

ADDITIONAL CAPABILITIES

At our request, the Corps has furnished a list of studies and projects for which it has reported capabilities to use additional funds above the FY 1987 budget amounts, subject to their usual qualifications. PNWA screened the many worthwhile studies and projects included in the programs for which the Corps is responsible and carefully studied the capabilities and are recommending those which we consider paramount to fulfilling PNWA's goals for water and related land resource development of this region. Of the studies and projects in which the Corps has reported additional approved capabilities along with some other Corps projects, we are specifically recommending increases to five studies and projects. These are summarized by category below.

Appropriation	PNWA's Recommended Increases to the FY 1987 Budget Request	Study/Project
General Investigations Studies	$ 50,000	Columbia River & Tributaries
	250,000	Coos Bay
TOTAL G.I.	300,000	
Construction, General	$ 1,500,000	Lower Snake River Fish & Wildlife Compensation Plan
Operation & Maintenance	$ 348,000	Ice Harbor - Powerhouse Modernization
	1,473,000	John Day Powerhouse (Major Rehabilitation)
TOTAL O&M	$ 1,821,000	

STATEMENTS IN SUPPORT
OF
ADDITIONAL FUNDING FOR FY 1987

GENERAL INVESTIGATIONS - CONTINUING STUDIES

Columbia River and Tributaries, ID, MT, OR, and WA

FY 1987 Budget Amount	$ 1,809,000
Additional Recommended for FY 1987	$ 50,000

Residents of the Pacific Northwest are greatly dependent upon the Columbia River for its power, food and fiber through irrigation, transportation through navigation, recreation. fisheries, and to a lesser extent, municipal and industrial water supply. These uses are often in conflict, demonstrating that supplies of water are not adequate to meet all of the growing demands placed upon the Columbia River. No other single resource in the Pacific Northwest influences the character and way of life in the region as much as the Columbia River and its major tributaries.

The development of additional storage in the basin could help to meet the growing demand for additional water supplies. The Columbia River and Tributaries Study is investigating a number of potential projects and programs to supplement the existing system while also formulating an overall system plan to insure that the Columbia River and its tributaries will be operated and managed in an optimum manner and in the public's best interest.

In FY 1986 funds are being used to continue studies of water storage projects in the Simikameen and Clearwater River basins, navigation in the middle Columbia River, and flood control needs along the lower Columbia River.

It is our understanding that funds proposed in the President's FY 1987 budget request would be used to continue studies of needed water storage projects in the Columbia River Basin on the Similkameen, St. Joe, and Clearwater Rivers, and of navigation on the middle Columbia River. Also, it is our further understanding that numerous flood prone areas exist along the lower Columbia River which have weak and inadequate locally-constructed levees. Additional funds in the amount of $50,000 could be used to accelerate flood control studies of those areas.

PNWA supports continuation of the Columbia River and Tributaries Study and strongly urges that the proposed budget of $1,809,000 be approved and that funds in the amount of $50,000 be added to the FY 1987 budget request for the Columbia River and Tributaries Study to advance completion of the levee studies on the lower Columbia River by six months.

GENERAL INVESTIGATIONS - NEW STUDY START

Coos Bay, Oregon

FY 1987 Budget Amount	$ 0
Amount Recommended for FY 1987	$ 250,000

The Coos Bay deep-draft navigation channel, serving southwest Oregon, is a vital transportation link between domestic producers and foreign markets. The continuing export of forest products and other products helps balance our international trade deficit and provide employment opportunities to the area which is currently experiencing nearly twice the national unemployment rate. An existing Federal deep draft navigation project at Coos Bay serves the needs of the people in six Oregon counties including seven major cities. However, the existing channel is constricted and vessels must pass through a narrow railroad bridge. With increased water traffic and larger vessels, costly delays are being experienced which result in higher ocean freight costs. The PNWA supports the Coos Bay, Oregon navigation improvement study and strongly urges that funds in the amount of $250,000 be added to the FY 1987 budget request to initiate and complete the reconnaissance phase for this important study.

CONSTRUCTION, GENERAL

Lower Snake River Fish and Wildlife Compensation Plan, WA, ID, & OR

FY 1987 Budget Amount	$14,000,000
Additional Recommended For FY 1987	$ 1,500,000

The Lower Snake River Fish and Wildlife project will provide compensation for the losses to the fish and wildlife resources that were caused by the construction and operation of the four Lower Snake River dam projects (Ice Harbor, Lower Monumental, Little Goose and Lower Granite). The project consists of a number of Chinook and Steelhead hatcheries that will provide 27,000,000 juvenile salmon and steelhead. These fish will be released in streams for migration to the Pacific Ocean. Adult salmon and steelhead resulting from these releases will provide both sport and commercial fishing opportunities with over 4 million pounds of fish going to the commercial fisheries and approximately 689,000 additional angler days of sport fishing. An estimated 132,000 adult fish will return to the project area of the Snake River. In addition to the anadromous fish, 93,000 pounds of trout or equivalent sports fishing will be reared and released in Eastern Washington and Idaho streams which will provide 45,000 additional angler days of sport fishing.

The Corps is progressing well on this project and expects to complete all hatchery construction by September 1989. The Clearwater Hatchery is currently scheduled to start construction in October 1987. A statellite hatchery at Powell, to be a part of the Clearwater, is scheduled to start at the same time. However, if additional funds of $1.5 million were provided in FY 1987, this facility could start in April and would provide the needed lead time to complete the facility for utilization by the Clearwater Hatchery. The PNWA supports the need for these additional funds and requests the Congress to appropriate them in FY 1987.

In addition to a system of fish propagation facilities, the compensation plan also provides for the acquisition of appropriate estates in lands for habitat development, and fisherman and hunter access on a willing seller-willing buyer basis. To date, the Corps has found that landowners in the project area are generally unwilling to grant land easements, as authorized, for wildlife and public access purposes. Their objections were based on the fact that such easements would adversely encumber their property should they desire to sell it at some future date. A number of owners were willing to sell their lands outright, however. The Corps has a Special Report which recommends actions to facilitate the accomplishment of the Compensation Plan. The primary recommendation is to allow the acquisition criteria to be modified to permit fee acquisition of whole farm units.

On November 13, 1985, the House of Representatives passed H.R. 6 which contained language, independently included, to authorize the changes in the Lower Snake River Fish and Wildlife Compensation Plan recommended in the Corps of Engineers Special Report. Such language is not included in the Senate companion bill, S-1567.

In summary, the Corps will be unable to make any substantial progress in achieving the wildlife mitigation objectives of the Lower Snake River Fish and Wildlife Compensation Plan until authority to accomplish the additional acquisition criteria is provided by Congress. The PNWA actively urges Congress to authorize the Corps to permit fee acquisition for the purchase of all the necessary lands to complete the wildlife portion of the project.

OPERATION AND MAINTENANCE

Ice Harbor - Powerhouse Modernization

FY 1987 Budget Amount	$389,000 1/
Additional Recommended For FY 1987	$348,000

1/ (This amount is part of the Ice Harbor Lock & Dam, WA project's FY 87 Request of $5,822,000)

The original three turbine units at the Ice Harbor project on the Snake River are identical in design to the John Day turbine units, and have suffered from some of the same mechanical problems.

We applaud Congress and the Corps for embarking on a modernization program to repair the turbine units and to modernize other aging equipment so that plant generating unit availability will not decline to a level that would adversely affect efficient operation of the NW power system. We encourage Congress to continue support of this modernization work through its completion in 1992. We also ask that additional funds in the amount of $348,000 be included in the FY 1987 appropriation for the Ice Harbor project to implement the powerhouse fire protection work and to replace the governors for power units 1, 2, and 3.

Also, at the Ice Harbor project, we wish to thank Congress for funding the dredging work at the downstream entrance to the navigation lock. This work, which the Corps will complete this month will eliminate river currents that cause difficult navigation conditions for the river transportation industry.

John Day Powerhouse (Major Rehabilitation)

FY 1987 Budget Amount	$3,900,000 1/
Additional Recommended For FY 1987	$1,473,000

1/ (This amount is part of the John Day Lock & Dam, OR & WA projects FY 87 Request of $11,858,000)

Because of its large capacity, relative freedom from operation constraints, and strategic location with respect to load centers, transmission lines and to other major hydroelectric projects; John Day is a key project in the control of the regional power system.

Operation of the plant for power peaking as well as for balancing regional power load variations has caused frequent generation unit loading and unloading which has taxed the turbines and generators in excess of their original design capability. In recent years this has caused excessive mechanical and electrical failures and reduced unit availability considerably below a reasonable level. Without the major rehabilitation effort presently underway, this decrease in powerplant availability would have continued and would have caused major problems in operation of the NW power system over the next few years.

We thank the Congress and the Corps for undertaking the major rehabilitation program at the John Day project to refurbish the turbine and generating equipment to head-off further declines in unit availability and restore the powerhouse to a condition suitable to support the key role it must play in the NW power system. We encourage Congress to continue support of this vital work through the program's completion in FY 1991 and ask that funds in the amount of $1,473,000 be added to the FY 87 budget request. These additional funds will be utilized to install a fire protection system in the powerhouse as well as install corrosion protection for the intake gates and bulkheads.

DEPARTMENT OF THE ARMY
NORTH PACIFIC DIVISION, CORPS OF ENGINEERS
Program for Fiscal Year 1987

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Study	Type of Study 1/	FY 1987 Budget Request	Additional Capability
GENERAL INVESTIGATIONS			
Studies			
Bellingham Harbor, WA	N	$ 150,000	$ 0
Chehalis R. & Tribs, WA	FDP	94,000	0
Columbia R. & Tribs, ID, MT, OR, WA, & WY	FDP	1,809,000	50,000
Columbia R. Coal Export Channel, Astoria, OR	N	0	0
Coos Bay, OR	N	0	250,000
Homer Spit Erosion, AK	FDP	297,000	0
Lower Snake R. Enhancement Plan, ID, OR & WA	RCP	0	250,000
Malheur Lake, OR	FDP	0	0
Mill Creek, WA	FDP	260,000	0
Mud Lake, ID	RDP	0	180,000
Olympia Harbor, WA	N	150,000	0
Palouse River & Tribs, ID & WA	FDP	0	112,000
Powder River & Tribs, OR	FDP	0	210,000
Puget Sound & Adjacent Waters, WA	COM	351,000	31,000
Puyullup River, WA	FDP	0	0
Rivers & Harbors in AK	FDP	946,000	0
Rogue River at Gold Beach, OR	N	0	90,000
Seattle Harbor, Duwamish WW, WA	N	0	150,000
Snohomish River & Tribs., WA	N	0	100,000
Southcentral Region, AK	N	163,000	0

DEPARTMENT OF THE ARMY
NORTH PACIFIC DIVISION, CORPS OF ENGINEERS
Program for Fiscal Year 1987

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Study	Type of Study 1/	FY 1987 Budget Request	Additional Capability
GENERAL INVESTIGATIONS			
Studies			
Umpqua River & Tribs, OR	FDP	565,000	190,000
Upper Snake River & Tribs, ID & WY	FDP	836,000	0
Willamette River Basin, OR	COM	378,000	0
Yakima Valley Regional Water Management, WA	FDP	0	300,000
Subtotal, Studies		$5,999,000	$1,913,000
Continuation of Planning and Engineering Studies			
Bethel Bank Stablization, AK	FC	0	0
Blair & Sitcum Waterways, Tacoma Harbor, WA	N	0	0
Blue River Powerhouse, OR	MP	0	0
Centralia, WA	FC	0	400,000
Chehalis R. at S. Aberdeen & Cosmopolis, WA	FC	147,000	0
East, West, & Duwamish WW, Seattle Hbr, WA	N	750,000	0
Grays Harbor, Chehalis, & Hoquiam Rivers, WA	N	770,000	0
McNary Lock & Dam, 2nd Powerhouse, OR & WA	MP	0	0
St. Paul Island Harbor, AK	N	400,000	0
Wynoochee Hydropower/Fish Hatchery, WA	MP	0	0
Yakima River at Union Gap, WA	FC	0	0
Subtotal, Continuation of Planning and Engineering Studies		$2,067,000	$400,000

1/ FDP - Flood Damage Prevention; N - Navigation; COM - Comprehensive; FC - Flood Control; MP - Multiple Purpose; RCP - Review of Completed Project; RDP - Review of Deferred Project.

Project	Type of Project 1/	FY 1987 Budget Request	Additional Capability
GENERAL INVESTIGATIONS (continued)			
Planning and Engineering			
Johnson Creek, OR	FC	$ 0	0
Lucky Peak, 2nd Outlet, ID	FC	0	0
Peninsula Drainage District No. 2, OR	FC	0	320,000
Wenatchee Canyons 1 & 2, WA	FC	0	400,000
Subtotal, Planning and Engineering		$ 0	$720,000
TOTAL - GENERAL INVESTIGATIONS		$8,066,000	$3,033,000

Project	Type of Project 1/	FY 1987 Budget Request	Additional Capability
CONSTRUCTION, GENERAL			
Continuing Construction			
Bonneville Navigation Lock, OR & WA	N	$20,000,000	$ 0
Bonneville Power Units, OR & WA	MP	0	0
Bonneville 2nd Powerhouse, OR & WA	MP	7,500,000	0
Chena River Lakes, AK	FC	7,000,000	0
Chetco River, OR	N	0	0
Chief Joseph Additional Units, WA	MP	6,000,000	0
Elk Creek Lake, OR	FC	0	0
John Day Lock & Dam, OR & WA	MP	0	0
Kake Harbor, AK	N	0	0
Lower Columbia R. Basin Bank Prot., OR & WA	FC	1,500,000	0
Lower Snake R. F&WL Comp Plan, WA, ID, & OR	MP	14,000,000	1,500,000
Mill Creek Lake, WA (Major Rehab)	FC	0	0
Mt. St. Helens and Vicinity, WA	FC	10,000,000	0
Mt. St. Helens Sediment Control, WA	FC	17,000,000	0
Mud Mountain Dam, WA (Dam Safety Assurance)	FC	4,000,000	0
Siuslaw River & Bar, OR	N	0	0
Snettisham, AK	MP	10,800,000	0
Strube Lake & Cougar Add'l Unit, OR	MP	0	0
Willamette River Basin Bank Protection, OR	FC	1,500,000	0
Zintel Canyon, Dam, WA	FC	0	0
TOTAL CONSTRUCTION, GENERAL		$99,300,000	$1,500,000

1/ MP - Multiple Purpose; FC - Flood Control; N - Navigation

Project	FY 1987 Budget Request	Additional Capability
OPERATION AND MAINTENANCE		
NAVIGATION (CHANNELS & HARBORS)		
Anacortes Harbor, WA	$ 103,000	$ 0
Anchorage Harbor, AK	1,920,000	0
Bellingham Harbor, I&J Street WW, WA	411,000	0
Bethel Harbor, AK	0	610,000
Blaine Harbor, WA	0	0
Chetco River, OR	502,000	0
Col & Lwr Willamette R below Vancouver, WA & Portland, OR	10,351,000	0
Col R. betwn Vanc/The Dalles, WA, OR	321,000	0
Columbia River @ Mouth, OR & WA	7,816,000	0
Columbia River @ Baker Bay, WA	666,000	0
Columbia River btwn Chinook, WA & Head of Sand Island, WA	444,000	150,000
Coos & Millicoma Rivers, OR	131,000	0
Coos Bay, OR	2,351,000	0
Coquille River, OR	279,000	0
Depoe Bay, OR	0	0
Dillingham Harbor, AK	423,000	0
Dry Pass, AK	0	635,000
Ediz Hook, WA	0	0
Edmonds Harbor, WA	0	0
Everett Harbor & Snohomish River, WA	607,000	0
Grays Harbor & Chehalis River, WA	4,537,000	1,322,000

Project	FY 1987 Budget Request	Additional Capability
OPERATION AND MAINTENANCE		
NAVIGATION (CHANNELS & HARBORS)		
Homer Harbor, AK	306,000	0
Kenmore Navigation Channel, WA	0	0
Kingston Harbor, WA	0	0
Lake Crockett, WA	299,000	0
Lake River, WA	0	0
Lewis River, Wa	0	0
Mats Mats Bay, WA	0	0
Neah Bay, WA	0	0
Ninilchik Harbor, AK	243,000	0
Nome Harbor, AK	1,029,000	0
Olympia Harbor, WA	114,000	0
Port Angeles Harbor, WA	0	0
Port Gamble Harbor, WA	0	0
Port Orford, OR	359,000	0
Port Townsend, WA	52,000	0
Puget Sound & Trib Water, WA	627,000	0
Quillayute River, WA	694,000	0
Rogue River Harbor at Gold Beach, OR	429,000	0
Seattle Harbor, WA	466,000	0
Shilshole Bay, WA	0	0
Siuslaw River, OR	399,000	0
Skamokawa Creek, WA	0	0
Skipanon Channel, OR	229,000	0
Smith River, OR	0	0
Stikine River, AK	$ 13,000	$ 0
Swinomish Channel, WA	206,000	0
Tacoma Harbor, WA	26,000	0
Tillamook Bay & Bar, OR	0	200,000
Umpqua River, OR	826,000	0
Waterway Connecting Port Townsend and Oak Bay, WA	52,000	0
Willamette River above Portland & Yamhill River, OR	0	0
Willapa River & Harbor & Naselle River, WA	0	0
Wrangell Harbor, AK	0	120,000
Wrangell Narrows, AK	0	0
Yaquina Bay & Harbor, OR	1,326,000	4,700,000
Yaquina River, OR	0	0
Subtotal - Channels & Harbors	$38,557,000	$7,737,000
NAVIGATION (Locks & Dams)		
Lake Washington Ship Canal, WA	$3,278,000	$1,370,000
Will. R. @ Will. Falls, OR	512,000	0
Subtotal - Locks and Dams	$3,790,000	$1,370,000
TOTAL NAVIGATION	$42,347,000	$9,107,000

Project	FY 1987 Budget Request	Additional Capability
OPERATION AND MAINTENANCE (continued)		
FLOOD CONTROL		
Reservoirs		
Applegate Lake, OR	$ 679,000	$ 0
Blue River Lake, OR	616,000	0
Chena River Lakes, AK	797,000	0
Cottage Grove Lake, OR	937,000	0
Dorena Lake, OR	618,000	0
Fall Creek Lake, OR	387,000	0
Fern Ridge Lake, OR	1,271,000	59,000
Howard A. Hanson Reservoir, WA	734,000	0
Lucky Peak Lake, ID	918,000	0
Mill Creek Lake, WA	340,000	0
Mud Mountain Dam, WA	1,081,000	0
Schedule Reservoir Operations	344,000	0
Willow Creek, OR	341,000	0
Wynoochee Lake, WA	1,405,000	0
Subtotal - Reservoirs	$10,468,000	$59,000
Channel Improvements, Inspections, and Miscellaneous Maintenance		
Inspection of Completed Works	$ 376,000	$ 0
Inspection of Completed PL99 Works	238,000	0
Stillaguamish River, WA	100,000	0
Tacoma, Puyallup River, WA	35,000	0
Willamette R. Bank Protection, OR	70,000	0
Subtotal - Channel Improvements, Inspections & Misc. Maintenance	$819,000	$ 0
TOTAL FLOOD CONTROL	$11,287,000	$59,000
MULTIPLE-PURPOSE POWER PROJECTS		
Albeni Falls Dam, ID	$ 2,026,000	$ 988,000
Bonneville Lock & Dam, OR & WA	13,128,000	141,000
Chief Joseph Dam, WA	6,480,000	430,000
Cougar Lake, OR	870,000	0
Detroit Lake, OR	1,543,000	0
Dworshak Dam & Reservoir, ID	7,005,000	482,000
Green Peter-Foster Lakes, OR	2,001,000	0
Hills Creek Lake, OR	567,000	0
Ice Harbor Lock & Dam, Lake Sacajawea, WA	5,822,000	1,057,000
John Day Lock & Dam, Lake Umatilla, OR & WA	11,858,000	1,548,000
Libby Dam, Lake Koocanusa, MT	3,856,000	85,000
Little Goose L&D, Lake Bryan, WA	4,707,000	989,000
Lookout Point Lake, OR	2,475,000	0
Lost Creek Lake, OR	2,326,000	0
Lower Granite Lock & Dam, WA	6,906,000	4,513,000
Lower Monumental Lock & Dam, Lake Herbert G. West, WA	4,507,000	482,000
McNary Lock & Dam, Lake Wallula, OR & WA	11,349,000	3,324,000
The Dalles Lock & Dam, Lake Celilo, WA & OR	7,099,000	1,731,000
TOTAL MULTIPLE-PURPOSE POWER PROJECTS	$94,525,000	$15,770,000

Project	FY 1987 Budget Request	Additional Capability
OPERATION AND MAINTENANCE (continued)		
PROTECTION OF NAVIGATION		
General Regulatory Functions	$6,232,000	$ 0
Project Condition Surveys	851,000	0
TOTAL PROTECTION OF NAVIGATION	$7,083,000	$ 0
TOTAL OPERATION AND MAINTENANCE	$155,242,000	$24,936,000

COLUMBIA BASIN PROJECT

STATEMENT OF RUSSELL WENTWORTH, PRESIDENT, QUINCY-COLUMBIA BASIN IRRIGATION DISTRICT

ACCOMPANIED BY CHAN BAILEY, EXECUTIVE DIRECTOR, COLUMBIA BASIN DEVELOPMENT LEAGUE

Senator DOMENICI. Now we want the executive secretary of the Columbia Basin, Chan Bailey.

Mr. BAILEY. My name is Chan Bailey. I would like to present Russell Wentworth, the president of the Quincy Columbia Basin Irrigation District.

Senator DOMENICI. Mr. Wentworth?

Mr. BAILEY. Correct.

Senator DOMENICI. Mr. Wentworth, please proceed.

Mr. WENTWORTH. Thank you, Mr. Chairman.

I have a delegation with me; the names are in the written testimony which have been previously submitted. The large majority of us are farmers who are directly involved in agriculture.

I have a couple of items of good news. First, my testimony will be brief. Second, we are not seeking any additional funds to the proposed budget for fiscal year 1987.

We would like to ask your support for that budget. We actively support it. Water from the Columbia River makes our land golden. We would like too continue in that regard.

Thank you.

Senator DOMENICI. Thank you very much.

[The statements follow:]

STATEMENT OF COLUMBIA BASIN DEVELOPMENT LEAGUE

This testimony supports the Department of the Interior program for the Bureau of Reclamation on the Columbia basin project in Washington State. The support that this committee has given to the energy and irrigation development in the Columbia basin project over the years is recognized and appreciated. It is development of projects such as these that has created an economic stability in many areas throughout the United States where otherwise there would have been no real base for many communities.

Wise use of our natural resources to create the basic wealth necessary for further economic growth is essential. This committee has long recognized that need, and the role that was necessary for the Federal Government to take in the development of those resources.

The 1987 budget as presented is modest but will accomplish the necessary items that need to be taken care of. Over three-fourths of the budget is for riverbank stabilization and switchyard work that needs to be done for final completion of the third powerhouse at Grand Coulee Dam. The balance of the budget is spread over many small items from the construction of Wahatis Wasteway which completes the first half of the irrigated area, to the environmental impact statement that will take a look at completion of the second half of the 1,095,000-acre project that was authorized in 1935 by Congress.

We ask for your support and approval of the Columbia basin project fiscal year 1987 budget as presented.

Thank you.

STATEMENT OF THE EAST COLUMBIA BASIN IRRIGATION DISTRICT

The East Columbia Basin Irrigation District supports the President's budget for the Columbia basin project for fiscal year 1987.

The budget provides for the completion of work on the Wahatis Wasteway which was begun in fiscal year 1986. This wasteway is an important safety valve on the Wahluke Branch Canal. Completion of this wasteway will help protect previous investments in this canal system and project farmlands.

We strongly support the completion of the environmental impact study for the second half of the Columbia basin project which was begun by the Bureau of Reclamation in fiscal year 1986. Declining ground water levels and other factors indicate a future need for additional water supplies for lands located east of the existing project. Completion of the EIS will provide valuable information for Federal, State, and local decisionmakers dealing with these needs. The State of Washington continues to assist the Bureau of Reclamation in this information-gathering process. The State-funded preliminary socioeconomic analysis for the second half of the project study will become a portion of the EIS document. The 1986 session of the State legislature passed legislation reaffirming the State's concern over providing adequate future water supplies and also authorizing further studies of the second half of the project by the State Department of Agriculture.

The President's budget provides for additional drainage construction at a level similar to recent years. Some additional drainage facilities in the East District continue to be necessary to protect project farmlands.

STATEMENT OF THE QUINCY-COLUMBIA BASIN IRRIGATION DISTRICT

The board of directors of the Quincy-Columbia Basin Irrigation District, one of the three districts comprising the Columbia basin project, wishes to present to your committee the comments of the Quincy District relating to the proposed budget for the fiscal year 1987 for the Columbia basin project.

The Quincy District is most pleased to note the amounts included in the proposed budget for drainage construction and deferred and supplemental construction. These expenditures are most vital to the lands within the project and also very important to further secure the investment of the United States in and to the irrigation facilities of the project. These expenditures are absolutely necessary for the continued success of the project and the enhancement of the ability of the water users to repay their repayment obligation to the United States.

The Quincy District is also appreciative of the amounts proposed in the budget to study the feasibility of the completion of the second half of the Columbia basin project. While the district realizes that expenditures for the construction of irrigation facilities to serve additional lands cannot be anticipated in the immediate future in view of the need for fiscal constraint, we feel that it is most important that the study of the feasibility for the completion is most imperative for contemplated long-term development.

The directors of the Quincy District respectfully request your support in approving the requested appropriations in the President's budget for the fiscal year 1986 for the Columbia basin project.

STATEMENT OF THE SOUTH COLUMBIA BASIN IRRIGATION DISTRICT

The board of directors of the South Columbia Basin Irrigation District is pleased to inform you and your committee members that we support the President's budget as it relates to energy and irrigation development on the Columbia basin project for fiscal year 1987. We particularly support those items budgeted for: (*a*) Drainage construction; (*b*) deferred and supplemental construction; (*c*) east high canal irrigation system; (*d*) east low extension; and (e) deferred and bypassed lands.

The deferred and supplemental construction program provides for completion of work on the Wahatis Wasteway which will be a valued operation safety valve for the Wahluke Branch Canal system. The Wahluke Branch Canal conveys water to 48,800 acres downstream from the proposed wasteway diversion structure location.

Also, the program will allow for timely completion of the environmental impact statement for continued project development. We look forward to the ultimate completion of the 1,095,000-acre Columbia basin project as originally authorized and reauthorized by Congress on August 30, 1935—50 years ago.

COLUMBIA BASIN PROJECT DELEGATION

Reid Phillips
President, Columbia Basin Development League
Farmer in undeveloped portion of the project

Earl Terwelliger
Director, East Columbia Basin Irrigation District
Project farmer

Doyle Mathews
Director, South Columbia Basin Irrigation District
Project farmer

Paul Olderding
Director, South Columbia Basin Irrigation District
Project farmer

Russell Wentworth
Director, Quincy-Columbia Basin Irrigation District
Project farmer

Chan Bailey
Development director, Columbia Basin Irrigation District and
Executive secretary, Columbia Basin Development League

WASHINGTON STATE PORT PROJECTS

STATEMENT OF HENRY E. SOIKE, GENERAL MANAGER, PORT OF GRAYS HARBOR, WA

Senator DOMENICI. Mr. Henry Soike, general manager of the Port of Grays Harbor.

Mr. SOIKE. Thank you, Mr. Chairman. I would appreciate the opportunity to introduce representatives of other ports in the State of Washington: Jeff Kaspar, deputy executive director, from the Port of

Bellingham; and Doug Edison executive director, from the Port of Olympia. The previous witness testified about $150,000 in reconnaissance studies for these two ports to increase the draft of their navigation facilities, and that is an important thing for them.

Of course, it is a long road that they are going to start traveling now, but you have to start somewhere.

Senator DOMENICI. Thank you very much for being here.

Mr. SOIKE. We also have John Turvspring, the senior director of facilities from the Port of Tacoma, and Phil Finnen from the Port of Tacoma.

Senator DOMENICI. Thank you for being here.

PORT OF GRAYS HARBOR, WA

Mr. SOIKE. We have statements we have filed for the record. We appreciate the opportunity to testify.

Just briefly, I represent the Port of Grays Harbor, and there is a line item of $770,000 to continue planning and engineering. We hope that this project will be able to get under construction once the public works bill and the agri bill go to conference.

BLAIR-SITCUM NAVIGATION PROJECT

I would also like to submit for the record a statement, and have submitted it from the Port of Seattle, supporting another line item for continuation, planning, and engineering. The Port of Tacoma has a more particular problem: There is a General Robertson in the North Pacific Division that indicated a need for $450,000 for bridge design in connection with the Blair-Sitcum Waterway.

It is the hope of the representatives of the Port of Tacoma that these funds can be added to the appropriation bill. In that regard, we will be working with members of the committee staff in the months ahead before the markup and passing of the legislation.

We do thank you for the time and appreciate the opportunity to testify.

PREPARED STATEMENTS

Senator DOMENICI. We will make not only your statement, but the statements of those that you submitted along with yours, part of the record. We thank you very much for considering the time constraints that we are working under, and we greatly appreciate your being here.

[The statements follow:]

STATEMENT OF PORT OF GRAYS HARBOR, WA

Mr. Chairman and members of the committee, my name is Henry E. Soike and I am the general manager of the Port of Grays Harbor which is Washington State's only deep-water coastal port.

Our navigation facilities provide the access link between Federal, State, and private timber resources and the Pacific rim countries of Japan, Korea, and the Peoples Republic of China.

While 1985 was not a particularly good year for the timber industry, we are pleased to report that waterborne shipments from Grays Harbor totaled 4,076,419 tons. Also, this was the highest volume of forest products exported in the 70-plus year history of our port.

In 1965 the Corps of Engineers initiated a study to determine the feasibility of increasing the existing 30-foot draft of our navigation channels. The Board of Engineers recommendation that the project be authorized at 38 feet has been endorsed by the Chief of Engineers and the Secretary of the Army. Formal authorization of the project is included in S. 1567 and H.R. 6.

Our 1985 annual report reveals that 82 percent of the vessels departing from Grays Harbor exceeded the current project depth. This was accomplished only by overdredging berth areas, accepting vessel delays, and sailing at maximum tide conditions.

Continuation of planning and engineering on this project has been ongoing by the Corps and we are pleased the budget contains $770,000 to complete this effort. We wish to express our appreciation to the committee for its past considerations in providing necessary funds for the Grays Harbor deeper draft project.

I thank you for the opportunity to submit this statement for the record.

STATEMENT OF THE PORT OF BELLINGHAM, WA

Mr. Chairman and members of the committee, my name is Jeff Kaspar and I am the deputy executive director for the Port of Bellingham, which is located on the Canadian border approximately 20 miles south of Vancouver, B.C.

The Port of Bellingham's deep-water facilities serve our district's major employers by providing a cost-effective facility for the export of finished products, locally manufactured, to world markets. Also, our port offers the Bellingham alternative to Canadian shippers looking for more competitive dockside rates for access to Pacific rim markets.

Last year, cargo movements at the Whatcom Creek Waterway in Bellingham were down over 25 percent. As is indicated to the port in a Star Shipping letter (attached) dated January 18, 1985, not only the strong dollar is working against our local manufacturers, but the depth of our Federal waterway has placed the Port of Bellingham at a competitive disadvantage with other shipping facilities. In spite of these problems, the Whatcom Creek Shipping Terminal exported over three-quarters of a million tons of U.S. products to world markets in 1985. A substantial contribution to our port district's total tonnage of 15,000,000.

Because world market competition requires that our local port facilities be able to accommodate the size vessel providing the best economies of scale to our shippers for them to remain competitive, and because a 30-foot channel no longer provides our vital industrial clients this critical advantage, the U.S. Corps of Engineers proposes to begin a reconnaissance study of our main shipping channel as a necessary initial action to determine the needed additional depth.

A deeper channel could facilitate more economical cargo movement. With this in mind, the port and the Corps of Engineers are prepared to take the first step, a reconnaissance study contained within this budget. The Port of Bellingham is encouraged to see budgeted the $150,000 necessary for the initiation of such an important project to our district's economy. Additionally, for the Committee's information, our port district has not requested Corps assistance since 1977 and only do so when the need and the benefit to our economic community can be clearly shown.

I appreciate the opportunity to address this committee and submit this statement for the record.

Thank you.

LETTER FROM CHRISTOPHER S. SHORT, OPERATIONS SUPERINTENDENT, STAR SHIPPING (U.S.W.C.) INC.

JANUARY 18, 1985.

Mr. HUGH WILSON,
Port of Bellingham, Bellingham, WA

DEAR HUGH: Star Shipping has had, and is continuing to have, problems with the water depth on the approaches to, and alongside, the Port of Bellingham docks. Vessels involved so far are:

Date	Vessel	Voy.	Draft	Delay
1/16/85	Star Carrier	185/BC185	9.5m	7.0 hrs.
1/18/85	Star Magnate	185/J185	10.0m	8.0 hrs.

The cost to Star Shipping to date is estimated at $20,000 to $23,000. As you realize, this puts the Port of Bellingham at a competitive disadvantage with other ports on Puget Sound. We will continue to have vessels of deep draft calling to load in the foreseeable future.

Please advise us what actions are being taken to correct this situation.

Sincerely yours,

CHRISTOPHER S. SHORT,
Operations Superintendent.

STATEMENT OF THE PORT OF OLYMPIA, WA

Mr. Chairman and members of the committee, I am Douglas Edison, executive director of the Port of Olympia, WA. My purpose in addressing the committee is to lay the groundwork for long-range plans to cooperatively enlarge the Olympia Harbor on Budd Inlet.

The Port of Olympia has seen a resurgence of ship activity since a 20-year growth plan was instituted in 1982. The key to Olympia's recent growth is a 5-year, locally funded, $21 million capital expansion plan which is now half completed. The improved facilities are being supported by an aggressive market strategy which has already turned results. Specifically, we've generated a 226-percent increase in vessel traffic from 1983 to 1985, tonnage is up 211 percent in the same period, and more importantly, the mix of cargoes, customers, exports and imports, and vessel types is becoming more diverse. Olympia is experiencing not only rapid growth but also increased economic balance and stability.

Budd Inlet is at the head of Puget Sound, and the Port of Olympia is the most central ship terminal for serving the Portland to Seattle corridor. In 1945, the Corps of Engineers harbor plan approved a 500-foot-wide channel and a 960- by 3,350-foot turning basin, both to a low-water depth of 30 feet. These are dredged to an actual width of 300 feet and 750 by 3,000 feet, respectively, at the full 30 feet of depth. The 1940's vintage cargo vessels of 6,000 to 8,000 tons have given way to vessels of 25,000 to 40,000 tons. Ships serving Olympia continue to grow, and harbor constraints will one day affect market development efforts. Conscientious planning will tell us to what limits to pursue harbor enlargement.

Toward that end, a reconnaissance study has been funded through the Corps of Engineers for the coming fiscal year. It should define Olympia's future ambitions as a growing international terminal. What is most important, and what I appeal to the committee for, is that Olympia's planning efforts be backed by a creative, visionary, Federal policy linking harbor development objectives with international trade opportunities. For Olympia to be a responsible steward of scarce waterfront resources, we must depend on national policies for waterway financing which lead to achievable results.

Thank you for this time to introduce you to the successes and ambitions of the Port of Olympia. Please expect to hear more from the Port of Olympia as we set our vision on the horizon of the 21st century.

STATEMENT OF THE PORT OF SEATTLE, WA

The Port of Seattle supports the fiscal year 1987 budget submission of the Corps of Engineers regarding the navigation improvement project for the east, west, and Duwamish Waterways.

The Duwamish project resulted from a study authorized by the Senate Public Works Committee on May 18, 1956. The project was recommended for implementation by a decision of the Board of Engineers for Rivers and Harbors on July 18, 1984, and was approved by the Chief of Engineers in his final report dated May 31, 1985. An authorization for construction of the project is included in H.R. 6 and S. 1567 as they passed the House and the Senate.

The Duwamish project involves the deepening, widening, and, in one area, narrowing of the Federal channels in the east, west, and lower Duwamish Waterways, and the replacement of a railroad bridge. The project will also benefit from the removal of a low-level highway bridge and its replacement by a high-level bridge that improves vessel access. The Corps of Engineers has found a favorable benefit-to-cost ratio of 2.5 to 1 for the project. The project would allow the Port of Seattle to expand to accommodate the growth of trade with the countries of the Pacific rim. The Port of Seattle is geographically well situated to handle Pacific trade since it is closer to the East Asian nations than the other major U.S. ports and since it has excellent rail connections to the U.S. Midwest and to the east coast.

Fiscal year 1987 will be the third year of continued planning and engineering work by the Corps of Engineers on the Duwamish project. This work should be completed so that the project can be brought to the point of readiness for construction.We urge that the committee act favorably on the administration's fiscal year 1987 request for funds for this work.

STATEMENT OF PORT OF TACOMA, WA

MR. CHAIRMAN AND MEMBERS OF THE COMMITTEE, MY NAME IS JOSEPH E. FAKER AND I AM A COMMISSIONER OF THE PORT OF TACOMA IN THE STATE OF WASHINGTON.

MY PURPOSE IN TESTIFYING TODAY IS TO REQUEST YOUR CONTINUING SUPPORT OF THE BLAIR-SITCUM NAVIGATION FEDERAL WATER RESOURCES PROJECT AT THE PORT OF TACOMA. THE PRINCIPAL FEATURES OF THIS PROJECT INCLUDE THE REPLACEMENT OF A NARROW BRIDGE AND THE DEEPENING OF THE BLAIR FEDERAL WATERWAY.

THE PORT OF TACOMA HAS, BECAUSE OF ITS EFFICIENT AND ECONOMICAL MEANS TO MOVE CARGO, BECOME ONE OF THE MOST RAPIDLY GROWING PORTS IN OUR NATION. IT IS ESTIMATED THAT BY THE END OF 1986 IT WILL BE THE SIXTH LARGEST CONTAINER PORT IN NORTH AMERICA AND THE 21st LARGEST CONTAINER PORT IN THE WORLD.

OUR DEEPWATER MARINE TERMINAL FACILITIES ALSO PROVIDE THE SHIPPING LINK FOR MANY STRATEGIC IMPORTED COMMODITY RESOURCES SUCH AS ALUMINA, COPPER, LEAD AND ZINC ORES, AND NATURAL RUBBER. AND WITH OUR OUTSTANDING INLAND RAIL AND HIGHWAY TRANSPORTATION CONNECTIONS, WE HANDLE EIGHT TIMES AS MUCH VOLUME IN U.S. EXPORTS TO THE WORLD MARKETPLACE WITH SUCH BASICS AS FOREST PRODUCTS AND GRAINS TO THE HIGH VALUE GOODS AS FARM MACHINERY/EQUIPMENT, TURBINES, AND LOCOMOTIVES.

WE BELIEVE THAT THE IMPORTANCE OF THE GROWTH OF THIS PORT TO OUR NATION IS REFLECTED IN THE FACT THAT INTERNATIONAL TRADE WITH PACIFIC RIM COUNTRIES THROUGH PACIFIC COAST PORTS HAS GROWN DRAMATICALLY OVER THE LAST TEN YEARS. IN 1980, FOR THE FIRST TIME, THE VOLUME OF TRADE BETWEEN THE U.S. AND ASIA SURPASSED THAT OF THE U.S. AND EUROPE. THE MARGIN WAS NINE PERCENT. BY 1983, THE VOLUME OF PACIFIC TRADE WAS AHEAD OF ATLANTIC TRADE BY 24 PERCENT. THIS TREND IS EXPECTED TO CONTINUE, AND WE MUST BE PREPARED TO HANDLE THIS FUTURE GROWTH.

WE ALSO BELIEVE THAT THE PORT OF TACOMA HAS THE UNIQUE RESOURCES NECESSARY TO MEET THIS CHALLENGE OF INCREASING TRADE

WITH THE PACIFIC RIM COUNTRIES. OF THE PORT'S 2,400 ACRES, OVER 800 ACRES ARE AVAILABLE FOR DEVELOPMENT. TO MEET PROJECTED GROWTH, THE PORT NEEDS TO BE ABLE TO PUT MORE OF ITS LAND TO USE--FOR SUCH FACILITIES AS CONTAINER TERMINALS, WAREHOUSES AND BULK HANDLING FACILITIES. ABOUT 400 ACRES OF THIS AVAILABLE LAND ARE ON THE UPPER BLAIR WATERWAY AND ARE SUITABLE FOR USE AS DEEP-WATER MARINE TERMINALS. THIS LAND CANNOT BE DEVELOPED TO ITS MAXIMUM POTENTIAL UNTIL A WIDER BRIDGE PROVIDES ACCESS TO THIS AREA AND THE WATERWAY IS DREDGED TO ACCEPT MODERN SHIPPING.

A RELATED AREA OF SERIOUS CONCERN TO THE PORT OF TACOMA AND THE FEDERAL GOVERNMENT IS THE IMPACT OF THE NARROW OPENING OF THE BLAIR WATERWAY BRIDGE ON OPERATIONAL SUPPORT OF THE U.S. ARMY AND MILITARY SEALIFT COMMAND. OUR PIERCE COUNTY TERMINAL AT THE SOUTHERN REACH OF THE BLAIR WATERWAY IS A KEY POINT OF EMBARKATION FOR MILITARY SHIPMENTS DURING TIMES OF DEFENSE EMERGENCIES. THE CONTINUED MILITARY USE OF THIS EXCELLENT TERMINAL WHICH IS SO IDEALLY SUITED TO MEET THIS REQUIREMENT HAS BEEN THREATENED BY SAFETY LIMITATIONS OF THE NARROW BRIDGE OPENING. RECENTLY THE MILITARY TRAFFIC MANAGEMENT COMMAND EXPRESSED ITS DEEP CONCERN TO THE PORT ABOUT THE MARINE SAFETY HAZARDS OUR BLAIR WATERWAY BRIDGE PRESENTS TO THE PASSAGE OF THEIR HIGH SPEED, STRATEGIC TRANSPORT, USNS REGULUS. ATTACHED IS A COPY OF THIS LETTER WHICH POINTS UP YET ANOTHER REASON FOR THE PROJECT TO PROCEED WITHOUT DELAY.

WE HAVE ANOTHER UNIQUE RESOURCE AT THE PORT OF TACOMA WHICH WE BELIEVE IS KEY TO OUR RECENT GROWTH. THAT RESOURCE IS OUR POTENTIAL FOR PROVIDING EFFICIENT AND ECONOMICAL TRANSIT OF CARGO TO THE MIDWEST AND EAST COAST OF THE U.S. WE ARE A TRULY NATIONAL PORT WITH OVER 70 PERCENT OF THE CONTAINERS PASSING THROUGH OUR FACILITIES TRAVELING TO OR FROM THE INTERIOR OF THE COUNTRY. MANY OF THESE CONTAINERS ARE PUT ON RAIL CARS IN SPECIAL PORT FACILITIES KNOWN AS "INTERMODAL YARDS." THE PORT OF TACOMA HAS BEEN A LEADER IN THE DEVELOPMENT OF THESE YARDS AND WAS THE FIRST PORT ON THE WEST COAST TO HAVE AN ON-DOCK INTERMODAL FACILITY. IT IS NOW THE ONLY PORT ON THE WEST COAST WITH TWO SUCH DOCKSIDE

INTERMODAL YARDS. TO CONTINUE TO DEVELOP FACILITIES SUCH AS CONTAINER TERMINALS AND INTERMODAL YARDS, AMPLE LAND IS NEEDED ADJACENT TO MARINE TERMINALS. MUCH OF THIS LAND IS LOCATED ON THE UPPER BLAIR WATERWAY.

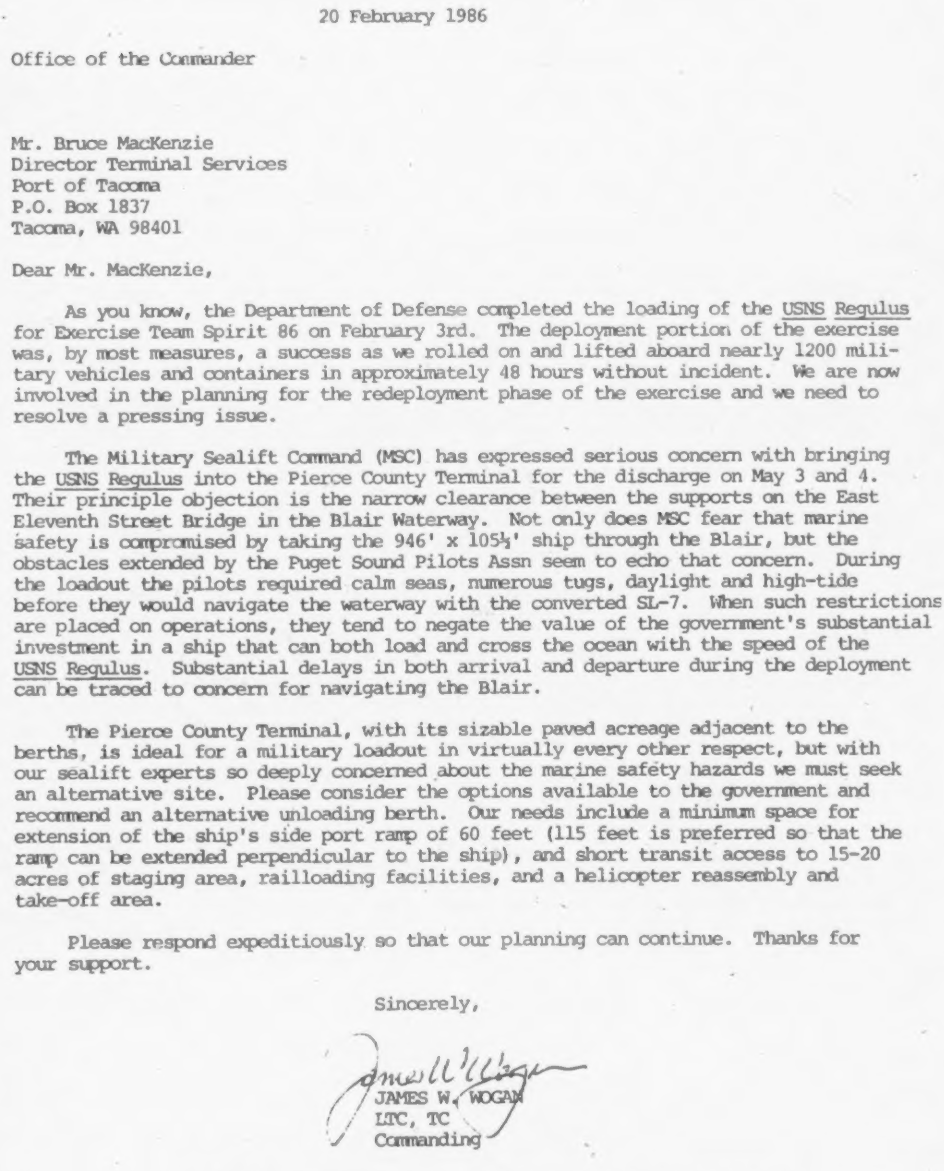
IN 1975 THE CORPS OF ENGINEERS RECOMMENDED THE BLAIR-SITCUM PROJECT, FOR BOTH ECONOMIC AND SAFETY REASONS, TO THE UNITED STATES CONGRESS. THIS PROJECT INCLUDES THE DEEPENING OF THE WATERWAYS TO APPROXIMATELY 45-FEET BELOW MEAN-LOW LOW-WATER, AND THE REPLACEMENT OF THE PRESENT BLAIR BRIDGE WITH A MOVEABLE MID-LEVEL BRIDGE WITH A 45-FOOT VERTICAL AND 300-FOOT HORIZONTAL CLEARANCE.

IN 1982, THE CORPS REAFFIRMED THE NECESSITY OF THAT ORIGINAL ANALYSIS. WE ARE VERY GRATIFIED THAT THE BLAIR-SITCUM PROJECT IS A PART OF THE RECENT WATER RESOURCES LEGISLATION. WE SINCERELY HOPE THAT IT WILL BE FINALIZED BY CONGRESS IN 1986 WITH FORMAL AUTHORIZATION OF THIS IMPORTANT PROJECT.

BECAUSE OF RECENT GROWTH AT THE PORT OF TACOMA, IT IS EVEN MORE IMPORTANT THAT THE UNLOCKING OF THE IMPORTANT RESOURCES OF THE BLAIR WATERWAY PROCEED EXPEDITIOUSLY. WE BELIEVE THAT THE DATE OF NEED FOR BLAIR WATERWAY IMPROVEMENTS HAS BEEN ACCELERATED. IT IS VITAL, THEREFORE, THAT APPROPRIATE PLANNING AND ENGINEERING PROCEED ON SCHEDULE. UNFORTUNATELY, WE FIND THAT THERE ARE NO FUNDS IN THE PRESIDENT'S BUDGET FOR THIS PROJECT IN 1987.
THE CORPS OF ENGINEERS, HOWEVER, STATED DURING THEIR TESTIMONY TO CONGRESS ON FEBRUARY 24, 1986 THAT THE NEXT STEP IN THE PROCESS IS COMPLETION OF BRIDGE REPLACEMENT STUDIES. THE ESTIMATED COST OF THIS WORK IS $450,000.

WE RESPECTFULLY REQUEST YOUR SUPPORT IN ADDING AN APPROPRIATION OF $450,000 IN FISCAL YEAR 1987 SO THAT ORDERLY PROGRESS IN NECESSARY PLANNING AND ENGINEERING CAN PROCEED.

LETTER FROM LT. COL. JAMES W. WOGAN, HQ. PACIFIC NORTHWEST OUTPORT, MILITARY TRAFFIC MANAGEMENT COMMAND, DEPARTMENT OF THE ARMY



20 February 1986

Office of the Commander

Mr. Bruce MacKenzie
Director Terminal Services
Port of Tacoma
P.O. Box 1837
Tacoma, WA 98401

Dear Mr. MacKenzie,

As you know, the Department of Defense completed the loading of the USNS Regulus for Exercise Team Spirit 86 on February 3rd. The deployment portion of the exercise was, by most measures, a success as we rolled on and lifted aboard nearly 1200 military vehicles and containers in approximately 48 hours without incident. We are now involved in the planning for the redeployment phase of the exercise and we need to resolve a pressing issue.

The Military Sealift Command (MSC) has expressed serious concern with bringing the USNS Regulus into the Pierce County Terminal for the discharge on May 3 and 4. Their principle objection is the narrow clearance between the supports on the East Eleventh Street Bridge in the Blair Waterway. Not only does MSC fear that marine safety is compromised by taking the 946' x 105½' ship through the Blair, but the obstacles extended by the Puget Sound Pilots Assn seem to echo that concern. During the loadout the pilots required calm seas, numerous tugs, daylight and high-tide before they would navigate the waterway with the converted SL-7. When such restrictions are placed on operations, they tend to negate the value of the government's substantial investment in a ship that can both load and cross the ocean with the speed of the USNS Regulus. Substantial delays in both arrival and departure during the deployment can be traced to concern for navigating the Blair.

The Pierce County Terminal, with its sizable paved acreage adjacent to the berths, is ideal for a military loadout in virtually every other respect, but with our sealift experts so deeply concerned about the marine safety hazards we must seek an alternative site. Please consider the options available to the government and recommend an alternative unloading berth. Our needs include a minimum space for extension of the ship's side port ramp of 60 feet (115 feet is preferred so that the ramp can be extended perpendicular to the ship), and short transit access to 15-20 acres of staging area, railloading facilities, and a helicopter reassembly and take-off area.

Please respond expeditiously so that our planning can continue. Thanks for your support.

Sincerely,

JAMES W. WOGAN
LTC, TC
Commanding

ADDITIONAL PREPARED STATEMENTS FOR THE RECORD

Senator DOMENICI. Now, I understand the subcommittee has received several statements on projects in the Southwestern region of the country, and others could be submitted in the next few weeks. So, those letters and statements will all be placed in the record at this point.

[The statements follow:]

STATEMENT OF SAM ARQUERO, GOVERNOR, PUEBLO DE COCHITI INDIAN RESERVATION, NM

Dear Senator Hatfield:

This letter is submitted in support of the FY 1987 U.S. Army Corps of Engineers Appropriation request upon which your subcommittee has already heard testimony from Government witnesses.

Among the projects for which this appropriation was originally sought by the Corps is a design and study project to develop a solution to severe groundwater table problems associated with the Cochiti Dam and Reservoir located on the Pueblo de Cochiti Indian Reservation in New Mexico.

Water seepage from the Cochiti Reservoir has saturated our tribe's prime framland, rendering it practically worthless, and depriving downstream irrigators of much needed water which is being soaked up by our land in a sponge effect.

Our Pueblo and the United States are now involved in litigation over this problem which the Pueblo filed only after the problem remained uncured for many years. The Corps' appropriation request, if granted, would finance an engineering study and design memoranda process by which a system for draining the excess groundwater would be developed; and, would lead to an end of the lawsuit.

This is a critical problem for us and its resolution would also benefit downstream irrigators. I urge that your subcommittee act favorably on this Corps' Appropriation request for FY 1987. It might be noted that despite this egregious problem, the Pueblo is making every effort to cooperate in uses of the Dam. Recently, the Pueblo approved a New Mexico request to store an extra 50,000 acre feet behind the Dam until August 15, 1986, even though this extra water will increase the hydrostatic head and lead to even more seepage on our lands. A Resolution to that effect is enclosed

I also request that your sub-committee note in its report to the full Appropriations Committee that the funds included in this appropriation for the Cochiti Reservior water seepage design work be earmarked for that purpose so that the Corps will be authorized and directed to proceed with this design project as originally contemplated, notwithstanding the present litigation.

RESOLUTION NO. ______

PUEBLO DE COCHITI

Whereas, the Council of Pueblo de Cochiti is the governing body of the Pueblo de Cochiti; and

Whereas, the Rio Grande Compact Commission, the State of New Mexico, through the offices of the Governor, the Department of Natural Resources, the State Engineer and the Intestate Streams Commission, and the United States, through the Bureau of

Reclamation and the US Army, Corps of Engineers, have requested permission of the Pueblo de Cochiti to store at the Cochiti Reservoir on a one-time basis, for the period March 31, - August 15, 1986, 50,000 acre feet of San Juan Chama water, to avoid the irreparable loss of that water to irrigators or recreation users in Southern New Mexico, and

Whereas, the referenced State offices and the Rio Grande Compact Commissioners for Texas and New Mexico have given firm commitments to support the Pueblo's efforts to obtain federal funds to correct the existing water seepage problem on Pueblo lands downstream of the Cochiti Dam through the Federal legislative process, and

Whereas, the US Army Corps of Engineers, Albuquerque District, has agreed to use its best efforts to secure US Army Corps of Engineers Central Office approval to continue Corps efforts to produce a feasible engineering and design plan for solving the seepage problem by the design memorandum process, notwithstanding the present litigation between the Pueblo de Cochiti and the United States in CV No. 85-1552M, U.S.D.Ct. District of New Mexico,

Now therefore, be it resolved, that the Pueblo de Cochiti does hereby agree to the said temporary water storage request, subject to the following conditions:

1. not more than 50,000 acre feet of additional San Juan - Chama water may be stored at Cochiti Lake Reservoir for the period March 31, 1986 - August 15, 1986 on a one time basis in addition to the authorized permanent recreation pool.
2. On August 15, 1986, any of the said additional 50,000 acre feet of San Juan - Chama water remaining in the reservoir shall be totally, actually and physically released from the Cochiti Reservoir by "wet water"

evacuation, notwithstanding that such release may cause total or partial loss of such water, and except as may otherwise be required by federal law to avoid loss of life or property due to flooding or other emergency respecting channel and protective works.

3. The Pueblo hereby expressly reserves all rights and claims in connection with (a) the easement granted to the United States for the establishment and operation of the Cochiti Dam and Reservoir, and (b) the case of *Pueblo de Cochiti v. United States of America, et. al.*, Civ. No. 85-1552M, U.S. D.Ct., District of New Mexico.

4. This approval is conditioned upon the United States' commitment not to raise the Pueblo's consent in this matter as a defense to any damage claim that may be asserted due to any additional water seepage which may result from the additional water storage here approved, such that the Untied States liability (if any) for additional water seepage damage (if any) from the additional 50,000 acre feet, will be the same as its liability (if any) and seepage (if any) derivative of other water stored in the Cochiti Reservoir, and be it further,

Resolved that this resolution shall not be effective until countersigned by an authorized representative of the United States Army Corps of Engineers, or other authorized official, signifying United States concurrence with and agreement to honor and comply with the foregoing conditions.

Duly approved by the Pueblo de Cochiti Tribal Council on the 13 day of MARCH, 1986.

Sam A
Governor Sam Arquero

CERTIFICATION OF ACCEPTANCE OF CONDITIONS BY US ARMY CORPS OF ENGINEERS

Subject to the following clarifications, I do hereby certify on behalf of the United States Army Corps of Engineers that the Corps agrees to honor and comply with the conditions set out in the foregoing resolution, of the Pueblo de Cochiti approving temporary storage of an additional 50,000 acre feet of San Juan-Chama water for the period March 31, 1986 to August 15, 1986.

1. Para. No. 1, Page 2 means:

   The U.S. Army Corps of Engineers, Albuquerque District, shall request a review by the Office of the Chief of Engineers of its previous decision to suspend the design plan regarding the seepage, notwithstanding the present litigation between the Pueblo de Cochiti and the United States in Civ. No. 85-1552M, U.S. District Court, District of New Mexico.

2. Para. No. 4, page 3 beginning "such that the United States..." means:

   Nothing in this resolution and agreement shall be considered an admission of liability in Civ. No. 85-1552M or in any other civil action. Except for the first five lines of paragraph 4, the parties hereto shall not use any statement from or reference to this agreement in support of either a claim or defense, or in any other manner, in Civ. No. 85-1552M except to show that 50,000 acre feet of water was stored for the term specified. If any damage arises from the storage of this water, nothing in this agreement and resolution shall prevent the Pueblo from raising such a damage claim.

I further certify that I am duly authorized to make this commitment on behalf of the U.S. Army Corps of Engineers and the United States.

19 March 1986
Date

DdE Pitt

STATEMENT OF THE LOWER SOUTH PLATTE WATER CONSERVANCY DISTRICT

The Lower South Platte Water Conservancy District the local sponsoring and contracting entity for the Narrows Unit Colorado, submits the following testimony to demonstrate its continued support for construction of the Narrows Unit of the Missouri Basin Project, as authorized on August 28, 1970, by an act of Congress (Public Law 91-389) and request for inclusion of $5,000,000 in the FY-1987 Energy and Water Development Appropriations Legislation.

Gentlemen of the Committee, we welcome the privilege for the Lower South Platte Water Conservancy District to submit this testimony as an expression of their continued support for construction of the Narrows Unit, Colorado. Ten years ago this committee recommended the Congress appropriate $3.995 million for construction activities. We ask that the committee take the initial steps toward history repeating that event.

The Narrows Unit is an element of the Pick Sloan Missouri River Basin Program which was initially authorized in 1944 as a part of the Flood Control Act of the same date. Again it was referenced in the Flood Control Act in 1946. In May 1964 property owners and citizens of a four county area in Northeast Colorado committed themselves to a program which was recognized as a method through which the U.S. Government helped local people in the seventeen western states develop the needed water resources which they were unable to develop with their own resources. Approximately twenty-two years ago these people put into place the institution necessary to provide a contracting entity with the United States for the Narrows Project. For twenty-two years people have been taxing themselves, an effort in good faith, to provide the local institutional entity, necessary for repayment to the United States for irrigation water. The administration is calling for expanded cost-sharing, but their reports do not give credit to the districts and state for the investments made from the voluntary payment of taxes by the local people has been and continues to be an important form of cost-sharing. An effort which here-to-for has not generally been recognized as part of project cost-sharing.

A vast majority of the district resources have been invested in obtaining a water right. This is a critical segment of the project. Without a storage decree, to provide a priority under which water will be stored, the Narrows Unit would have a significantly reduced value. In effect, it would be reduced to a flood control facility only. The water conservancy district has spent significant portions of its funds over the twenty-two years obtaining and maintaining the rights to water under the laws of the State of Colorado.

In May 1986, once again, the conservancy districts will have to file their claim, stating continued interest and listing the work and financial investments made toward perfecting this water right decree, in the court. These activities are a form of "cost-sharing" but the district investments receive little recognition in the accounting of investments in this project. We submit that nowhere in the financial and economic evaluation documents will you find reference given to a value for water rights.

Obtaining a water right is just one of the many activities by the conservancy districts and the local people. Statements of support by the Colorado Legislature through Senate Joint Resolution #6, in 1981, passage of H.B. 1088 in 1985, and again the reference to the Narrows Unit as a priority in proposed legislation before the 1986 legislature are examples of efforts and sharing in the necessary work proceeding physical construction of the Narrows. The issue is, the district invests nearly all its available resources in support of the Narrows project.

Lower South Platte and Central each signed contracts with the United States in 1976. Central has completed the local contracting activities, and has received court confirmation and validation of the contract with the United States. The Lower South Platte has executed in excess of one hundred local contracts and will complete that process. We have preformed in good faith under the terms of those contracts since the date of execution.

Again, we complement this committee for its valiant efforts in leading the way throughout the years. We remember the presidential veto and action which provided subsequent revenues so the project could proceed to the degree that it has.

One year ago this committee recommended and it was favorably received by Congress to appropriate $500,000 to direct the Bureau of Reclamation to prepare a plan to remove any possible inferences, construction of the Narrows project could have an adverse impact on Endangered Species and their habitat three hundred miles, more or less, down river from the proposed project site. Those planning activities have gone forward. Representatives of three states, Wyoming, Nebraska, and Colorado, representatives of the environmental community, and the Whooping Crane Habitat Management Trust, all, have been involved in this activity. At this particular time the district has been informed that these activities will be completed by October or November 1986.

In light of the district contracting work and the projected completion and favorable resolution of Endangered Species question, we hereby submit a request to this committee to include five million dollars in the F.Y. 1987 appropriation legislation for the purposes of,

a) Land acquisition from willing sellers within the project take area. We ask the Bureau be directed to actively cooperate with landowners to prevent property loss due to financial difficulty, and

b) That the Bureau of Reclamation be directed to initiate the field surveys and to contract for construction design for relocation of Colorado State Highway 144, the Union Pacific Railroad, and other utilities which would lie within the project boundaries, and

c) If this committee deems it essential to the completion of the Narrows Unit, that a greater degree of cost-sharing than already provided for under the law, rules and regulations, we suggest a directive to the Department of Interior on this issue be included with the appropriation. Current cost-sharing provisions includes, P.L. 89-72, and P.L. 93-251, which requires participation by the State for all wildlife enhancement facilities and cost-sharing by the State of Colorado to participate in all recreational facilities. The Reclamation Law provides cost-sharing requirements and guidelines for agriculture and the municipal and industrial water users payments to the United States. Reclamation Law, Title III of the Water Supply Act of 1958, P.L. 89-72, and P.L. 93-251 form the foundation for Narrows project cost-sharing requirements. Presently those requirements for cost-sharing are approximately fifty-five million dollars. In addition, the Pick Sloan Power Project will repay to the Treasury the outstanding balance of costs allocated to agriculture above the users ability to pay. This could well add an additional amount of $100,000,000 to the package. However, if in addition to these numerious cost-sharing requirements as per the Narrows, August 28, 1970, authorization, further cost-sharing is essentional to an appropriation for construction of the Narrows Unit, we ask this committee direct the Department of Interior enter into and conclude negotiations with local and state agencies.

The request to direct the Department to pursue cost-sharing agreement is made because of uncertainties of changes which are not included within the project authorizing legislation (P.L. 91-389). The State of Colorado believes the Department should proceed with construction of the Narrows project as per the Congressional authorization. The Conservancy Districts concur in this position. However, this administration has been stating that they are interested in additional cost-sharing provisions. If additional cost-sharing is essential, then it seems that the responsible department should be responsible to pursue that objective. The Narrows Unit was authorized pursuant to a set of rules, regulations and congressional actions, therefore it is our position that the Narrows Unit should be constructed pursuant to that law. The people of Northeastern Colorado have performed in good faith under that law; believe the United States acting through the Department should perform as well. We realize that Congress can in fact change rules in mid-stream, and if their intent is to change the rules it is our appeal to this committee that any modification or changes in the cost-sharing should result from congressional initiative and be the responsibility of the appropriate federal agency to arrive at an accommodation.

In closing, again we thank you for the opportunity to appear before you today. We submit that the local conservancy districts have performed in good faith over the last twenty-two years and have performed in good faith under the terms and conditions of the contract signed in 1976, by pursuing necessary subcontracts, maintenance of the water rights, and other work necessary for completion of local prerequisite activities. We ask this committee to appropriate $5 million dollars to resume the construction activities of the Narrows Unit-Colorado.

STATEMENT OF MONTEZUMA COUNTY (CO) BOARD OF COMMISSIONERS

The United States Congress required the states of Colorado and New Mexico to enter into a reasonable Cost Sharing Agreement with the Secretary of Interior in 1985 as a condition for receiving an appropriation for the start of construction of the Animas-La Plata Project. The United States, through the Department of Interior, insisted that all cost-sharing arrangements for the project be considered as part of the Ute Indian Reserved Water Rights Settlement.

Montezuma County, Colorado is involved in the negotiation process because the Ute Mountain Ute Indian Tribe claims Winters Doctrine Rights on the Mancos River which is a vital part of the agricultural economy to the town of Mancos and Montezuma County. As a result of cooperation between two states, various water districts, two Indian Tribes and numerous other entities including Montezuma County, a document was written called the "Settlement of Colorado Ute Indian Tribe Reserved Water Rights", an agreement in principle.

As the Board of Commissioners for Montezuma County we would like to take this opportunity to urge you to consider the effort that has been exerted toward reaching this agreement in principle, as they are incorporated into legislation to appropriate funds for construction of the Animas-La Plata Project. The Animas-La Plata Project is the best solution to settle the Indian Water Rights Claims. In addition, it offers vital benefits for the non-Indian water users in the Mancos Valley and other municipal, industrial and agricultural water users in Southwest Colorado and Northwest New Mexico.

If you have any questions, or if we can be of any assistance, please give us a call.

STATEMENT OF THE COLORADO RIVER ENERGY DISTRIBUTORS ASSOCIATION

I am Leroy Michael, Jr., President of the Colorado River Energy Distributors Association ("CREDA"). I am also Associate General Manager, Planning and Resources of Salt River Project. My business address is P.O. Box 52025, 1521 Tempe Drive, Phoenix, Arizona 85281 (Telephone: 602/236-5409).

On behalf of CREDA, I wish to thank the Chairman and members of this Subcommittee for the opportunity to appear before you in support of certain aspects of the Administration's FY 1987 Budget. Specifically, my testimony will be directed at requests for appropriations for the Bureau of Reclamation and the Western Area Power Administration.

CREDA is a non-profit Colorado membership corporation comprised of 18 publicly-owned electric utility systems, organizations of publicly-owned electric utility systems and state agencies located in the Colorado River Basin states of Arizona, Colorado, Nevada, New Mexico, Utah and Wyoming. A complete list of CREDA's members is attached for your reference.

CREDA represents statutory preference customers which purchase nearly all of the electric power and energy produced by the Colorado River Storage Project plus significant portions of the Boulder Canyon and Parker-Davis Projects and 100 percent of the Rio Grande Project. These purchases are all from the Western Area Power Administration. CREDA's members render electric service to hundreds of thousands of rural, residential, commercial and industrial customers.

A. Department of the Interior, Bureau of Reclamation

CREDA supports the Bureau of Reclamation's overall request for FY 1987 New Budget Authority of $835,120,000. Although the FY 1987 request appears to be adequate to carry out the Bureau's current program, CREDA is troubled by what appears to be a continuation of the President's no "new starts" policy as far as major federally-funded water and power projects are concerned. This policy represents a continued restriction on the development of the Nation's water and power resources.

CREDA acknowledges that the Nation faces an extreme budget crisis; however, CREDA must urge this Subcommittee not to lose sight of the fact that the Nation also faces a crisis of another nature. Every year needed water projects are deferred means another year of lost water development benefits. Rather than being stored and applied to the land, water is allowed to run to the sea. Farms are not irrigated, crops are not developed and, ultimately, the Nation's gross national product does not keep pace with the needs of the Nation's citizens.

CREDA urges this Subcommittee to carefully weigh the Nation's fiscal and water development and insure that at least the amounts requested in the President's Budget for the Bureau of Reclamation are approved. The Subcommittee should also consider augmenting the President's request where appropriate. Continuation of what is essentially a no "new starts" policy for federally-funded water projects is essentially continuation of a no growth policy for rural America -- a policy which this country cannot afford to perpetuate much longer.

B. Department of Energy, Western Area Power Administration

The Western Area Power Administration plays an important role in the delivery of electric power from federal water projects. Western is a vital link in making power resources available to the Nation, as well as helping generate the revenues required to pay back the cost of federal power and irrigation projects. Western's Colorado River Storage Power System and Parker-Davis System are particularly important to CREDA members. CREDA supports the full President's FY 1987 New Budget Authority Budget Request for Western of $240,309,000 and obligational authority of $82,000,000 for the Colorado River Basin's Power Marketing Fund.

C. Sale of PMA's

I would like to close my remarks today by addressing a very troublesome proposal which has recently been advanced by the Administration to "de-federalize" the Department of Energy's Power Marketing Administrations. Members of this Subcommittee have expressed their opposition to the Administration's proposal in strong and clear terms. CREDA joins this Subcommittee in opposing the sale of these valuable assets of the Nation's taxpayers. A resolution adopted by the CREDA Board of Directors on March 27, 1986 is attached to this Statement.

CREDA notes that as of September 30, 1985, Western has repaid some $1.8 billion to the Treasury for outlays in prior years in constructing water and power projects. Western is "on time" in retiring its remaining $2.3 billion in unpaid investment. Therefore, CREDA finds it strangely anomalous in this day of unusually restricted budgets for anyone to propose the sale of federal assets which return to the government two to three times more in revenues than they require in appropriations. While the Administration has promised to seek legislation to implement any plan it ultimately adopts for the sale of the power marketing administrations, it is wasteful to even study de-federalization, as members of the Subcommittee have aptly pointed out.

CREDA is also concerned that the Administration appears to be anxious to modify current PMA repayment practices. Again, CREDA is pleased that again the Administration appears to be willing to obtain legislation before it proceeds with any such changes. Without knowing the specific nature of the changes to be proposed, CREDA can only note that as far as Western is concerned, current repayment practices have served the federal government well. Under the law, rates are to be set as low as possible, consistent with sound business practices. Western's rates generally conform to this principle and, since they have resulted in Western being "on time" in retiring unpaid federal investments in water and power projects, should not be altered.

In closing, may I say on behalf of CREDA that it is a pleasure to appear before you today. CREDA supports this Subcommittee's efforts to continue the development of the Nation's water and power resources and urges that it take steps to insure that the Administration shares that commitment and continues a program of healthy resource development in the West.

COLORADO RIVER ENERGY DISTRIBUTORS ASSOCIATION

Following is a detailed listing of the Colorado River Energy Distributors Association ("CREDA") and systems which are associated with or comprise such Member for purposes of participation in CREDA.

CREDA Member	Associated Systems
Arizona Municipal Power Users Association	Cities of Saford and Towns of Thatcher and Wickensburg, Arizona; San Carlos Irrigation Project; San Carlos Irrigation District; Cortaro Marana Irrigation District; and Hohokam Irrigation and Drainage District.
Arizona Power Authority	Chandler Heights Citrus Irrigation District; Queen Creek Irrigation District; and San Tan Irrigation District.
Arizona Power Pooling Association	Mesa City; Electric District No. 2,; Arizona Electric Power Corporation (including Anza Electric Coop; Duncan Valley Electric Coop.; Graham Co. Electric Coop; Mohave Electric Coop.; Sulphur Springs Valley Electric Coop.; and Trico Electric Coop.).
Colorado River Commission of Nevada	Boulder City; Overton Power District No. 5; Lincoln City Power District No. 1; and Valley Electric Association.
City of Colorado Springs, Colorado	(Not applicable)
City of Farmington, Utah	(Not applicable)
Intermountain Consumer Power Association	Cities of Beaver, Bountiful, Enterprise, Ephraim, Fairview, Fillmore, Heber Light & Power, Holden, Hurricane, Hyrum, Kanosh, Kaysville, Lehi, Logan, Meadow, Monroe, Morgan, Mt. Pleasant, Murry, Oak City, Parowan, Spring City; Bridger Valley Electric Assn.; Dixie-Escalante Rural Electric Assn.; Flowell Electric Assn.; Garkane Power Assn.; Moon Lake Electric Assn.; and Mt. Wheeler Power, Inc.
Irrigation and Electrical District Association of Arizona	Ak-Chin Indian Community; Electrical Districts 3, 4, 5 and 6 - Pinal Co.; Electrical District No. 7 - Maricopa Co.; Maricopa County Municipal Water Conservation District No. 1; Ocotillo Water Conservation District; Roosevelt Irrigation District; Roosevelt Water Conservation District; and Welton-Mohawk Irrigation & Drainage District.

CREDA Mmeber	Associated Systems
Navajo Tribal Utility Authority, New Mexico	(Not applicable)
Plains Electric Generation and Transmission Cooperative, Inc.	Kit Carson Electric Coop.; Otero County Electric Coop.; Mora-San Miguel Electric Coop.; Northern Rio Arriba Electric Coop.; Sierra Electric Coop.; Springer Electric Coop.; Socorro Electric Coop.; Central New Mexico Electric Coop.; Continental Divide Electric Coop.; Columbus Electric Coop.; Southwestern Electric Coop.; Jemez Mountains Electric Coop.; Navopache Electric Coop.
Platte River Power Authority	Cities of Estes Park, Ft. Collins, Longmont, and Loveland.
Provo City, Utah	(Not applicable)
Salt River Project Agriculture Improvement and Power District, Arizona	(Not applicable)
Southern Utah Valley Power Project	Strawberry Water Users Association and Cities of Payson, Salem, Spanish Fork and Springville, Utah.
Tri-State Generation and Transmission Association	Big Horn Rural Electric Co., Carbon Power & Light, Inc., Chimney Rock Public Power Dist., Garland Light & Power Co., Highline Electric Assn., Hot Spring[illegible] County Rural Electric Assn., Inc. K.C. Electric Assn., Inc., The Midwest Electric Membership Corp., Morgan County Rural Electric Assn., Mountain Parks Electric, Inc., Mountain View Electric Assn., Inc., Niobrara Electric Assn., Inc., Northwest Rural Public Power Dist., Panhandle Rural Electric Membership Assn., Poudre Valley Rural Electric Assn., Inc., Riverton Valley Electric Assn., Inc., Roosevelt Public Power Dist., Rural Electric Co., Inc., Sheridan-Johnson Rural Electrification Assn., Shoshone River Power, Inc., Union Rural Electric Assn., Inc., Wheat Belt Public Power Dist., Wheatland Rural Electric Assn., Inc., Wyrulec Company, Y-W Electric Assn., Inc.
City of Truth or Consequences, New Mexico	(Not applicable)
Utah Municipal Power Agency	Cities of Manti and Nephi and Town of Levan, Utah.
Wyoming Municipal Power Agency	Cities of Cody and Powell and Towns of Fort Laramie, Guernsey, Lingle, Lusk, Pines Bluffs, and Wheatland.

A RESOLUTION OF CREDA OPPOSING SALE OF THE POWER MARKETING ADMINISTRATIONS

WHEREAS, CREDA is a non-profit Colorado membership corporation comprised of 18 publicly-owned electric utility systems, organizations of publicly-owned electric utility systems and state agencies located in Colorado River Basin states of Arizona, Colorado, Nevada, New Mexico, Utah and Wyoming whose members purchase nearly all of the electric power and energy produced by the Colorado River Storage Project, and

WHEREAS, energy generated at federal hydroelectric facilities is purchased by more than 1,000 consumer-owned utility systems that serve homes, farms, businesses and industry in 34 states, and

WHEREAS, the federal investment in hydropower is being systematically repaid to the U.S. Treasury, with interest, by federal power customers and power revenues also contribute a significant amount of revenue to assist the repayment of irrigation costs, salinity control and certain fish and wildlife mitigation programs, and

WHEREAS, some 275,000 manufacturing, wholesale, retail and service companies nationwide, which employ more than 3,000,000 people and contribute nearly $240 billion to the national economy, are served by consumer-owned utilities that rely on federal power purchases for all or part of their bulk power supply, and

WHEREAS, the sale, transfer or other disposal of the power marketing administrations or the federal powerplants and related facilities could:

- threaten consumer-owned utilities and their customers with uncertainty of supply and significantly higher power rates,
- undermine the ability of consumer-owned utilities to provide reliable electric service at competitive rates and thereby increase monopoly in the electric utility industry,
- renege on existing repayment agreements between the United States and federal power users, and
- eliminate a reliable, long term source of revenues for the U.S. Treasury;

NOW, THEREFORE, BE IT RESOLVED, that CREDA opposes the sale, transfer, exchange, lease or other disposition of the federal power marketing administrations and powerplants and related facilities for the production and transmission of electricity.

STATEMENT OF THE COLORADO RIVER BASIN SALINITY CONTROL FORUM

For the Department of the Interior

Bureau of Reclamation

	7 State Recomm.	Pres.Budget
Construction	$24,100,000	$24,412,000
Advance Planning	800,000	265,000
Plan Formulation	4,400,000	3,620,000
TOTAL:	$29,300,000	$28,297,000

****

The waters of the Colorado River system serve some 17 million people and irrigate about 1.6 million acres in the seven Colorado River Basin states. The river also provides domestic and irrigation water to Mexico. Salinity has long been recognized as one of the major problems in the river. Water users in the lower reaches of the river system have suffered significant adverse impacts due to the river's salinity. These impacts have been estimated to reach as much as $100 million a year. Without salinity control measures and with increased demands for Colorado River water in the basin, the river's salinity is projected to increase, further impairing the usefulness of this water supply and the economic damages suffered by the water users may double by the turn of the century.

The Basin states concerns with the river's increasing salinity led them to create the Colorado River Basin Salinity Control Forum in 1973. The Forum, whose members are appointed by the governors of the respective states, developed a salinity control policy that called for maintaining salinity concentrations at or below those levels found in the lower river in 1972 while the Basin states continue to develop their compact apportioned waters. The Forum has a continuing responsibility to see that a salinity control plan is implemented to meet the policy objectives.

In 1974, after discussions between the federal government, the Republic of Mexico, and the seven Colorado River Basin States, Congress enacted the Forum sponsored Colorado River Basin Salinity Control Act (P.L. 93-320). Title I of the Act established a program to reduce the concentration of salts in the Colorado River below Imperial Dam, the last diversion point in the United states, so that the United States could honor its commitments to Mexico. In Title II, the Act established a program which allowed the states and the federal government to work together to prevent salinity increases in the Colorado River above Imperial Dam, benefiting users in the United States as well as Mexico. The 1974 Act also created a Colorado River Basin Salinity Control Advisory Council, composed of governor appointed representatives of the Basin states to advise the Secretaries of the Interior and Agriculture and the administrator of the Environmental Protection Agency as to needed annual adjustments to the salinity control effort.

In 1984, Congress enacted much needed amendments to the 1974 Act that were advanced by the Forum. The amendments, Public Law 98-569, authorized additional activities for the departments of the Interior and Agriculture that are needed in order to meet the objectives of the Act.

The Advisory Council made specific recommendations in its 1985 Annual Report relative to the Fiscal Year 1987 funding of the salinity control efforts. The Colorado River Basin Salinity Control Forum has been supportive of the recommendations of the Advisory Council. The appropriation felt necessary by the Advisory Council and the Salinity Control Forum has been identified at the beginning of this statement with respect to the Bureau of Reclamation budget for salinity control features for contruction, advance planning and plan formulation.

The President's budget recommends appropriations slightly less (3.4%) than recommended by the seven Basin states. The seven states recommendations were guided by an understanding that the FY 87 federal budget was significantly limited in the next fiscal year and hence the funds requested were viewed to be the minimum necessary for the program to move ahead on the time table that is necessary to prevent further pollution of the Colorado River by increased salinity. However, in support of the attempts to control the federal budget, the seven Basin states feel that they can support the appropriations recommended by the President.

We therefore urge that the Senate Committee on Appropriations, Subcommittee on Energy and Water Development, recommend for appropriation the amount by the President. We feel it important to note however, that any further cuts in these appropriations would delay implementation of the salinity control program resulting in further salt pollution of the river and significant future damage to the users of the Colorado River in the United States and Mexico.

OPPOSITION—ANIMAS LA PLATA PROJECT

STATEMENT OF LOUISE VOELKER, LA PLATA COUNTY, CO

I am Louise Voelker, a taxpayer of LaPlata County, Colorado. I plea strongly you **do not fund a third major water project for SW Colorado, namely ANIMAS-LAPLATA WATER PROJECT.** It is not economic to farm here as shown and not needed as settlement for Indian water claimed as there are much cheaper alternatives which require no energy for pumping. [This project is an energy consuming water project and needs Federal energy assistance from funds the Federal Gov't contemplates selling off to reduce our deficit.]

LaPlata County has a population of only 33,000 and already has two major water projects! The ALP irrigator would pay $33 to $53 per acre for water supply. These Project users would definitely be bankrupt in a short period of time when considering a cost of ALP water and a gross crop value as derived from the present Florida or Pine River Water Projects from this county.

Attached are the Bureau of Reclamation crop production & water utilization summaries for 1984 for these two water projects. Briefly stated:

Florida - **GROSS crop value per irrigated acre, $145.23**

Pine - **GROSS crop value per irrigated acre, $82.80**

[Also included is sheet 5 which shows these people received a whopping 5.54 acre-feet of water per the acre from the Pine and still only grossed $82.80 per the acre. They had 52,161 AF in ditch loss or approx. 1/4 of total supply was lost. Sheet also indicates 1000 AF was a municipal supply for the Town of Ignacio, the Southern Ute Indian headquarters. Please also notice there was no project water delivered during 1984. There was plenty of water: a water project unused in 1984!]

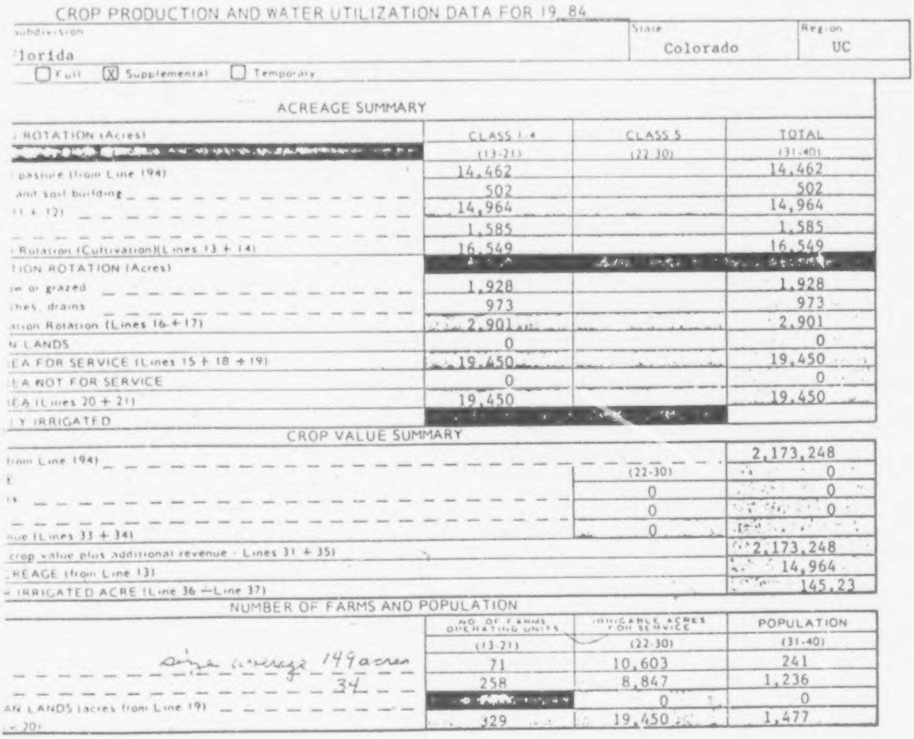
Pine Indian - **GROSS crop value per irrigated acre, $76.60**

[This is the So. Ute Indian part of the whole Pine River Water Project. I might add the Agreement in Principle which is being promoted by Senator Armstrong and Rep. Strang both Republicans incidently **has no mention of this water project as being part of So. Ute Indian settlements for Winter's Doctrine claims!** Conveniently disregarded I believe.]

The Navajo Indian Tribe water issue was not considered in the Agreement in Principle signed March 14, 1986 by our local proponents. The Tribe is allocated 7600 AF from the ALP Project. However the delivery point is at Farmington, New Mexico and not to their reservation where they plan a new city. Their concern is that the project will misapply water to which they feel they are entitled. Legal manuvers have been in progress a number of years. The Bureau said they are constrained by the provisions of the Co. River Compact apportionment of water to each state. Nonetheless, **the Navajo water issue is not settled even if the ALP is built!**

Other Municipal & Industrial users all have cheaper alternatives. Attached is a Bureau water supply study for the proposed storage reservoir to be located in Colorado for New Mexico M&I. In that 49-year study period it shows the number of times water would have been released for New Mexico use. Notice all the zeros where they didn't need storage water simply because they had all the water they needed already flowing down the river to them. In that 49-year study New Mexico water from Ridges Basin Reservoir was used only one-half the time and then for some of those years only 100 AF was released! Since this project was designed, their local storage has been increased. And Durango never did need a Federal water project neither.

Again for everyone's sale & esspecially the increasing Federal deficit, **do not consider funding the Animas-LaPlata Water Project.** These water projects have over-run costs consistently; where they project a construction cost of $553M in reality it will be **one billion** by completion date. None of us can afford such ill-thought out Federal projects. This one is simply not economical. Why just last Sunday in our local paper an article stated on the front page that the farmers who signed up for the Dolores Water Project, presently being built in our next county, are circulating a petition to the Bureau begging to get out of their contract for irrigation water. They say now they cannot afford that project; they want somebody else to take their assigned water. What a shame they hadn't arrived at that conclusion before the dam was built.



CROP PRODUCTION AND WATER UTILIZATION DATA FOR 19 84

ubdivision	State	Region
lorida	Colorado	UC

☐ Full ☒ Supplemental ☐ Temporary

ACREAGE SUMMARY

ROTATION (Acres)	CLASS 1-4	CLASS 5	TOTAL
[redacted]	(13-21)	(22-30)	(31-40)
pasture (from Line 194)	14,462		14,462
and soil building	502		502
11 + 12)	14,964		14,964
	1,585		1,585
Rotation (Cultivation)(Lines 13 + 14)	16,549		16,549
TION ROTATION (Acres)	[redacted]	[redacted]	[redacted]
w or grazed	1,928		1,928
hes, drains	973		973
ation Rotation (Lines 16 + 17)	2,901		2,901
N LANDS	0		0
EA FOR SERVICE (Lines 15 + 18 + 19)	19,450		19,450
EA NOT FOR SERVICE	0		0
EA (Lines 20 + 21)	19,450		19,450
Y IRRIGATED	[redacted]	[redacted]	

CROP VALUE SUMMARY

from Line 194)		2,173,248
	(22-30)	0
s	0	0
	0	0
nue (Lines 33 + 34)	0	
crop value plus additional revenue - Lines 31 + 35)		2,173,248
REAGE (from Line 13)		14,964
IRRIGATED ACRE (Line 36 ÷ Line 37)		145.23

NUMBER OF FARMS AND POPULATION

	NO. OF FARMS OPERATING UNITS	IRRIGABLE ACRES FOR SERVICE	POPULATION
	(13-21)	(22-30)	(31-40)
size average 149 acres	71	10,603	241
34	258	8,847	1,236
AN LANDS (acres from Line 19)	[redacted]	0	0
e 20)	329	19,450	1,477

Pine

CROP PRODUCTION AND WATER UTILIZATION DATA FOR 19 84

Subdivision	State	Region
ne River	Colorado	UC

☐ Full ☒ Supplemental ☐ Temporary

ACREAGE SUMMARY

on ROTATION (Acres)	CLASS 1 4	CLASS 5	TOTAL
	(13-21)	(22 30)	(31-40)
d pasture (from Line 194)	25,376		25,376
d and soil building	3,090		3,090
s 11 + 12)	28,466		28,466
	1,095		1,095
on Rotation (Cultivation)(Lines 13 + 14)	29,561		29,561
ATION ROTATION (Acres)			
low or grazed	8,592		8,592
itches, drains	1,488		1,488
gation Rotation (Lines 16 + 17)	10,080		10,080
AN LANDS	0		0
REA FOR SERVICE (Lines 15 + 18 + 19)	39,641		39,641
REA NOT FOR SERVICE	1,639		1,639
REA (Lines 20 + 21)	41,280		41,280
ILY IRRIGATED			

CROP VALUE SUMMARY

(from Line 194)		2,356,878.00
UE	(22-30)	
nts	0	0
	0	0
enue (Lines 33 + 34)	0	0
s crop value plus additional revenue - Lines 31 + 35)		2,356,878.00
ACREAGE (from Line 13)		28,466.00
R IRRIGATED ACRE (Line 36 — Line 37)		82.80

NUMBER OF FARMS AND POPULATION

	NO. OF FARMS OPERATING UNITS	IRRIGABLE ACRES FOR SERVICE	POPULATION
	(13 21)	(22 30)	(31-40)
avg average 160 acres	195	31,234	477
45	186	8,407	408
BAN LANDS (acres from Line 19)			
ine 20)	381	39,641	885

Pine

Subdivision	State	Region
s River	Colorado	UC

☐ Full ☒ Supplemental ☐ Temporary

NET SUPPLY 1/	OPERATIONAL SPILLS	TRANSPORTATION LOSSES	NONAGRICULTURAL DELIVERIES MUNICIPAL INDUSTRIAL	NONAGRICULTURAL DELIVERIES MISCELLANEOUS	DELIVERED TO FARMS	ACRE FEET PER ACRE
(13-21)	(22-30)	(31-39)	(40 48)	(49-57)	(58-66)	
PROJECT WATER (Acre Feet)						
NONPROJECT WATER (Acre Feet)						
210,903	0	52,161	1,000		157,742	5.54
210,903	0	52,161	1,000		157,742	5.54

ANNUAL OPERATION, MAINTENANCE AND REPLACEMENT COSTS (Whole Dollars)

AGRICULTURAL	MUNICIPAL & INDUSTRIAL	OTHER	TOTAL ALL FUNCTIONS
(13-21)	(22-30)	(31-39)	
0	0	0	0
121,788.00	0	0	121,788.00
121,788.00	0	0	121,788.00

DRIP AND SPRINKLER IRRIGATION (Whole Numbers)

d (13-21)	564	
21)	0	

not any project water delivered during 1984.

NEW MEXICO M+I SUPPLIED FROM RIDGES BASIN RESERVOIR

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1929	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1930	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1931	0.0	0.0	0.0	0.0	0.0	0.0	0.0	.4	0.0	0.0	0.0	0.0
1932	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1933	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1934	0.0	0.0	0.0	-.4	0.0	.2	4.0	2.4	0.0	0.0	0.0	0.0
1935	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1936	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1937	0.0	0.0	0.0	0.0	0.0	0.0	0.0	.2	0.0	0.0	0.0	0.0
1938	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1939	0.0	0.0	0.0	0.0	0.0	0.0	1.1	2.3	0.0	0.0	0.0	0.0
1940	0.0	0.0	0.0	0.0	0.0	0.0	.8	.6	0.0	0.0	0.0	0.0
1941	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1942	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1943	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1944	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1945	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1946	0.0	0.0	0.0	.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1947	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1948	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1949	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1950	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.3	0.0	0.0	0.0	0.0
1951	0.0	0.0	0.0	1.0	0.0	0.0	0.0	.4	.5	0.0	0.0	0.0
1952	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1953	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.5	0.0	0.0	0.0
1954	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1955	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	.6	0.0	0.0	0.0
1956	0.0	0.0	0.0	0.0	0.0	0.0	.8	2.8	3.3	.5	0.0	0.0
1957	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1958	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1959	0.0	0.0	0.0	.1	0.0	0.0	.4	0.0	1.4	0.0	0.0	0.0
1960	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.5	.3	0.0	0.0	0.0
1961	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1962	0.0	0.0	0.0	0.0	0.0	0.0	0.0	.6	0.0	0.0	0.0	0.0
1963	0.0	0.0	0.0	0.0	0.0	0.0	.7	.3	0.0	0.0	0.0	0.0
1964	0.0	0.0	0.0	0.0	.1	0.0	.1	0.0	0.0	0.0	0.0	0.0
1965	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1966	0.0	0.0	0.0	0.0	0.0	0.0	0.0	.5	0.0	0.0	0.0	0.0
1967	0.0	0.0	0.0	.0	.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1968	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	.7	0.0	0.0	0.0
1969	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1970	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1971	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1972	0.0	0.0	0.0	0.0	0.0	0.0	1.1	2.9	0.0	0.0	0.0	0.0
1973	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1974	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.1	2.6	0.0	0.0	0.0
1975	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1976	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1977	0.0	0.0	0.0	1.8	.9	0.0	2.0	0.0	.0	0.0	0.0	0.0
AVERG.	0.0	0.0	0.0	.1	.0	.0	.2	.4	.2	.0	0.0	0.0

STATEMENT OF JEAN McCULLOCH, DURANGO, CO

I am Jean McCulloch, vice chairman of Taxpayers for the Animas-La Plata Referendum, an organization that has actively opposed the construction of the Animas-La Plata Project since 1979.

I am asking that the Animas-La Plata Project receive zero funding for FY 1987.

One of the most serious problems associated with water project development is the absolute power and unlimited financial resources of the non-elected water boards who lobby relentlessly for old dreams. These boards do not represent the people whose tax dollars fuel their lobbying efforts; and more importantly, they have failed to recognize a changing world.

Through the years this committee has heard their testimony, pleading for Animas-La Plata construction funds to fend off a water crisis in southwest Colorado. We believe the only crisis is the project itself.

A local engineer is fond of saying, "The Animas-La Plata Project is a solution in search of a problem." The problem, as seen by the proponents of the project, has been eliminated by engineering and legal studies, population growth that did not materialize and diminishing markets for agricultural products and coal. In other words, there is no demonstrated need for the project that cannot be solved by scaled down, more cost effective alternatives, alternatives that do not bankrupt the federal, state and local taxpayer.

The Agreement in Principle, recently sent to the Secretary of the Interior, is one more misleading attempt to convince Washington that the Animas-La Plata Project solves Indian water claims and provides up-front cost-sharing by Colorado and New Mexico. It does neither.

The mythical $238 million in up-front funds is an economist's nightmare. For instance, the cost of deleted project features and money not available until the eleventh year of construction are being offered as up-front funds! To make matters worse, New Mexico has not even signed the Agreement.

The Agreement in Principle does not settle Indian water claims for it is the Indian features of the project that are being deleted. Furthermore, neither the Dolores nor the Animas-La Plata Project is considered Winters doctrine water. Does this mean that the Ute Tribes at some future date can demand more water projects to settle their Winters claims? The Dolores Project did not satisfy Ute Mountain Ute claims; the Pine River Project and the Florida Project did not settle Southern Ute claims. The question remains.

Recent history has shown what happens when bad projects are funded. The Dallas Creek Project, once the efforts of intensive lobbying, is not needed now. Population projections were wrong, cheaper alternatives were developed and conservation measures cut down on usage. The federal taxpayer was once again responsible for picking up the cost overruns when Senator Armstrong and former Representative Kogosvek were successful in getting a cap put on the amount the local water users would pay for project water.

The Dolores Project suffers the same fate as the Dallas Creek Project. Population projections were wrong , so municipalities are questioning the need for the water. Recently the irrigators started circulating a petition to extricate themselves from the burden of paying for the supposedly "cheap" project water.

The Animas-La Plata Project has additional baggage attached to it. It is a power consumer, using 165 million KWH of energy yearly to pump water uphill approximately 900 feet in elevation. The viability of the project depends on the future availability of cheap power rates. If those rates go up, it would mean financial disaster for the project. The federal taxpayer will be paying for one more water project in southwest Colorado that was not needed in the first place.

You are hearing the voice of the people now, not the lobbyist. And the people are saying that no one can afford federal water projects such as the Dallas Creek, Dolores and the Animas-La Plata. Let's not make a third mistake in southwest Colorado. It's time to put old dreams to rest by not funding the Animas-La Plata Project.

STATEMENT OF M'LYNNE WOMBLE-KENNEY, DURANGO, CO

I am writing to state my opposition to funding the Animas-LaPlata project. The project is economically irresponsible and the project is too expensive a solution to the Indian water rights claims.

In a time of excessive federal debt, this project is a luxury our nation cannot afford. Nearby Dolores and Dallas Creek projects exceeded their cost estimates by up to 200%. In the case of the Animas-LaPlata project (ALPP) it would become a billion dollar project. Dolores, Dallas Creek and other western Colorado water projects have unsold water - the expected beneficiaries are not there or cannot afford the water. Besides being an expensive mega project to build, required pumping costs (165 million KWH/year) make annual operating costs high.

The ALPP would provide expensive water for Durango, Colorado but Durango has adequate water rights that can be developed at less cost, according to a study by consulting engineers. The price would be paid by local users. Three cities in New Mexico which now take water directly out of the Animas River, would pay dearly to still take water out of the river 96% of the time. The other 4%, in occasional dry years, the cities would receive project water. Conservation in dry years or perhaps enlarging existing municipal storage seems less costly.

Approximately 125 farmers would receive irrigation and domestic water. Irrigation water is heavily subsidized by taxpayers at the same time that the Department of Agriculture is paying farmers not to grow crops and to put marginal land back into grasslands. Still each farmer would have to pay for miles of pipe and a sprinkler to deliver the irrigation water. Nearby Dolores project farmers are circulating a petition to postpone or avoid water delivery, because the best projection by a Soil Conservation Service study would still mean a $17 loss per acre after expenses. Additionally each farmer would have to pay for a treatment plant and another set of miles of pipe to deliver domestic water (or alternatively treat irrigation water and use one set of pipes). Since the project open canal delivery system would not operate during winter months due to freezing, each farmer is faced with the expense of building an adequate stock pond for winter use. Area farmers are financially overextended and facing bankruptcy like many others across the country. A water project of this magnitude is unlikely to save the family farm but could push it over the brink. More cost effective solutions would be smaller, gravity flow projects along the LaPlata River which could be state funded, or maintaining the mixture of irrigated and dryland farming now in place.

The Southern Utes and Ute Mountain Utes have long waited for water that is due to them. Court quantification of their water rights, based on practicable irrigable acres, would probably result in significantly less water than that now designated in ALPP. However, in the interests of being good neighbors, I would support their current claim. In the case of the Southern Ute Tribe enough water flowed down the Animas River in 1977, the dryest year on record, to supply their claim of 29,800 acre feet and still supply Durango's future needs and other downstream commitments. A smaller, possibly gravity flow, more cost efficient project could be built by the federal government specifically for the Tribe.

Of course, in the Principles of Agreement recently submitted, the Tribes have agreed to postpone their delivery systems as a cost cutting measure, eliminating wet water available to the reservation for some time to come.

The Ute Mountain Ute Tribe's claims are on the Mancos River, not the Animas River. A main arguement for building the Dolores Project was that those claims would be met. The Tribe has yet to sign a contract for the available wet water in the Dolores project (23,900 acre feet for a tribe of 1500 people), now insisting that the ALPP will meet those needs. Since municipalities and farmers in the Dolores project are paying for expensive water they have no use for (the Bureau of Reclamation projected growth figures have not materialized) excess water may be available to the Tribe through purchasing that water. Another possibility is two Soil Conservation Service studies indicating an additional 54,000 acre feet of water would be available if salinity control measures were implemented on the Mancos River and McElmo Creek, both accessible via gravity flow vs. pumping water out of the Animas River, over 60 miles away.

The very real possibility is that the Tribes would prefer to lease their share of water downstream, in which case let the downstream users incur the costs of storage rather than force the project on their neighbors.

Alternatives to an expensive, grandiose, multi-purpose project exist to meet water development needs in dry southwest Colorado. A yes vote for funding is a pork barrel vote in times of efforts to balance the budget.

OPPOSITION—CENTRAL ARIZONA PROJECT

STATEMENT OF CITIZENS CONCERNED ABOUT THE PROJECT

Mr. Chairman and members of the committee, with all the rhetoric about the deficit and the need to reduce Federal spending, we were amazed to hear the administration ask for a substantial increase in funding for the Central Arizona Project [CAP]. Surely the facts do not support a need for this project in any foreseeable future. An honest economic appraisal at a realistic interest and discount rate shows it to be a waste of tax dollars. As was pointed out in our testimony last year, the CAP will return less than 35 cents for each tax dollar invested in it.

That many others are concerned about wasteful water projects is shown by the enclosed reviews of our executive director Frank Welsh's book, "How To Create a Water Crisis" by such diverse publications as Audubon and Civil Engineering magazines and the Journal of Agricultural Economics. My favorite review is from Choice, one of the three leading library review journals in our Nation: "He makes a stunning case that the real welfare queens in America are the irrigators of the West."

I have also enclosed a review by Professor Leshy of Arizona State University Law School. He astutely perceives that the book typifies an emerging phenomenon, the marriage of the fiscal conservative and the environmental activist. While he considers the book's major conclusion—to abolish the Bureau of Reclamation—not politically feasible, we are finding increasing support for the concept.

The President's budget request provides a wonderful tool to help us sell this concept since he increases the Bureau's budget while decreasing National Park's and Fish and Wildlife's. This illustrates that those who threaten our national treasures are in control of the Interior Department and helps us point out how important it is to get the Bureau fox out of Interior's henhouse.

As a citizens taxpayer group, we strongly urge that you not only not increase funding for the Bureau of Reclamation, but rather greatly decrease their appropriation. Here is one area where domestic spending can be cut without impacting the truly needy. We suggest most of the reduction in the President's request come from money slated for the truly unnecessary CAP. We also caution Congress about the sweetheart agreement being negotiated between Arizona and the Secretary of Interior. This would give the CAP approximately $200 million a year for the next 10 years.

BOOK REVIEWS

FROM CHOICE, SEPTEMBER 1985—SCIENCE AND TECHNOLOGY

"How to Create a Water Crisis," by Frank Welsh.—This is an engaging polemic about water policy in the western states. Welsh, professional civil engineer and lawyer, is also executive director of a citizen taxpayer group opposed to the Central Arizona Project. This massive irrigation project symbolizes all that is irrational about federal policies, which with one hand encourage agriculture through subsidized water and with the other pay farmers not to grow certain surplus crops. Welsh draws upon his vast practical experience with the Corps of Army Engineers, as well as upon academic studies to show how the taxpayers are subsidizing a few large farmers through highly inefficient pork barrel investments. By citing vivid examples, he shows how it is generally much cheaper to conserve water or to draw down groundwater than to build massive irrigation works. He makes a stunning case that the real welfare queens in America are the irrigators of the West. This timely book is recommended for general libraries and academic libraries concerned with water resources.—*M.T. Kalzman, University of Texas at Dallas*

FROM AUDUBON ACTION, AUGUST 1985

"How to Create a Water Crisis," by Frank Welsh.—Frank Welsh—lawyer, civil engineer, executive director of a taxpayer group that is fighting the proposed Central Arizona Project—is well known to Auduboners and other activists wherever there is a wasteful and destructive water project to be wrestled with. A leader for years in the struggle led by Maricopa Audubon Society to save the Salt and Verde rivers, and Arizona's desert bald eagles, from a dam-and-diversion project that would benefit mostly real estate developers in Phoenix, Welsh brings a wealth of experience to his theme: that the West's water "crisis" is not a scarcity of water for its citizens but a high-stakes manipulation of bureaucracy and special interest politics. Foreword by former Interior Secretary Stewart Udall.

FROM AMERICAN JOURNAL OF AGRICULTURAL ECONOMICS

Welsh explores the politics of water, with a focus on central Arizona. He contends that water shortages in the West are largely the result of existing laws and other institutional factors. Welsh argues that federal reclamation programs contribute to alleged shortages by maintaining inefficient water allocation, and that proposed projects generally are cost-ineffective with potential environmental and social damages. He presents an interesting and readable discussion of the contradictions in water policy, with considerable data in support of his views.—*John C. Day, Economic Research Service, U.S. Department of Agriculture*

FROM CIVIL ENGINEERING, AUGUST 1985

"How to Create a Water Crisis"—Argues that the West's water shortages are more perceived than real, and that the perception that a water crisis exists is a product of special interest groups and self-perpetuating bureaucracies. Taxpayers, the book contends, are being soaked for billions of dollars to create unnecessary, uneconomic and environmentally harmful projects, and would be better served by a free market approach.

FROM ARIZONA CIVIL ENGINEER, MAY 1985

Frank Welsh, a well known member of the Arizona Section, has just published a book "How to Create a Water Crisis" with a foreword by Stewart L. Udall, former Interior Secretary. Udall states that "in this book Frank Welsh takes another complex subject and produces clarity which should make the real issues understandable. But just as importantly, this author who is trained in both engineering and law, has written a work which is technically insightful and will appeal as much to professionals in this field as it will to the general reader."

How to Create a Water Crisis

✱

by Frank Welsh, with a foreword by Stewart Udall
Johnson Books, Boulder, Colo.
233 pp., $16.95 (cloth), $9.95 (paper)

by John D. Leshy

Frank Welsh has written an entertaining and occasionally angry book on the folklore of water in the West, seen primarily through the lens of the Central Arizona Project (CAP). Though this multi-billion dollar federal water project may not ring many bells across the country, it has been the dominant political issue in Arizona for half a century, and that fact alone says a lot about the stature of water out West.

The CAP's basic purpose is simple: to take water from the Colorado River along the Arizona-California border, lift it several hundred feet, and ship it through a canal to Phoenix, Tucson, and areas in between. The project is funded mostly by the federal taxpayer, and is being built by the federal Bureau of Reclamation, an arm of the Department of the Interior created early in this century to help settle the then sparsely populated West with family farmers.

Welsh, a Phoenix civil engineer and lawyer who spent several years with the other major federal water development agency, the Army Corps of Engineers, and who has devoted countless hours fighting the CAP as head of a local citizen/taxpayer group, does not like the CAP one bit. He regards it as uneconomic, unnecessary, environmentally destructive and, in the end, downright silly. He also makes a rather compelling case for his position, asking why indeed build a project to pump water uphill 1,200 feet to Phoenix and another 900 feet to Tucson, when there is a several hundred-year supply of groundwater underneath these cities, found at depths of fewer than a thousand feet? (Currently, pumping is from 300-500 feet.) And why should the federal taxpayer heavily subsidize the project, when current water prices in Arizona are well under the national average, and municipal water usage in Phoenix is well above the national average?

As these facts indicate, the dominant theme of this book is economics, not the environment, though the latter is not ignored. Welsh thus typifies an emerging phenomenon, the marriage of the fiscal conservative and the environmental activist. Good economic practices can mean good environmental practices, and vice versa.

In the case of the CAP, you do not have to be a Milton Friedman acolyte to be skeptical; even a mild dose of economic prudence would suffice. One obvious solution to Arizona's water "crisis"—a crisis that is, as Welsh's title indicates, rooted more in human institutions than in natural forces—is to allow market forces more room to work. When the price of water goes up, as it almost inevitably will as the pumps go deeper, people will use less. Clearly there would be some dislocation, especially in agriculture. (Amazingly, not only does agriculture use 89 percent of Arizona's developed water, but much of the agricultural production is of relatively low value crops more easily grown elsewhere: hay, grains, and cotton. Citrus and vegetables together use substantially less than 10 percent of the state's water.) But that dislocation in the agricultural sector is going to occur anyway; indeed, it already is occurring. Farms are steadily being replaced with housing developments on the fringes of Phoenix and Tucson. In rural areas, some marginal farms are simply going out of production because of the increasing cost of pumping groundwater. Yet, as Welsh points out, even with the federal subsidy built in, CAP water will still cost local users substantially more than current supplies. This dirty little secret is only now beginning to dawn on many who have instinctively, and ritually, supported the CAP all these years.

One obvious solution to Arizona's water crisis is to allow market forces more room to work.

The CAP, like many federal water projects, conforms not to the laws of nature or of Adam Smith, but to the laws of politics, which are, in their assigned sphere, equally ironclad. Water in the West, the hackneyed but demonstrably true phrase goes, runs uphill to money. The engine that drives projects like the CAP is money, more powerful when it is, from the local beneficiaries' standpoint, mostly someone else's (the federal taxpayer's) money.

But there is another important factor behind the CAP; it is Arizona's project to tap the waters of the Colorado River. Other states in the Colorado River basin have or are getting their own federal projects to tap its waters, so the CAP is being built in part simply to satisfy Arizona's demand for a piece of the action. Welsh presents the flavor of this interstate equity argument and provides a glimpse at the problems facing this river, whose waters have brewed conflict for most of this century. Though a complex series of agreements and lawsuits have divided its waters among the basin states, Welsh points out one uncomfortable fact: the amount of water divided up exceeds the average annual flow of the river by 40 percent! Yet because Arizona is near the bottom of the legal priority list, this over-allocation directly threatens the supply of water for the CAP. The federal government has nevertheless plunged ahead with its construction, urged on by the locals.

This book addresses nearly all the key issues: Indian water rights, environmental conflicts, water and energy development, dam safety, and salinity problems in the Colorado basin. Particularly interesting are the passages describing how the bureau manipulates cost-benefit analyses in order to provide economic justification for pork barrel

John Leshy *is a professor of Law at Arizona State University. He served as associate solicitor for energy and resources at the Department of the Interior from 1977 to 1980 and was an attorney in NRDC's Western office from 1972 to 1977.*

projects. The Reagan administration seems not to have learned anything from this experience in its unabashedly enthusiastic embrace of cost-benefit analysis. But it is difficult to read this book without coming away a rather thoroughgoing skeptic on the utility of relying wholeheartedly on such a tool.

There are, of course, difficulties inherent in writing a book of such topicality. Though Welsh adamantly opposes the CAP in its entirety, the project is nearly half complete; indeed, it is nearly completed already to Phoenix. But battles still remain to be waged: over local financing of the relatively paltry share of the costs that must be repaid to the federal treasury; over the facilities that are planned to store CAP water temporarily once it arrives in Phoenix and Tucson; over modifications in existing dams for safety purposes; and over a growing conflict between bald eagle habitat and the proposed Cliff dam, a new flood control facility to make possible a series of recreational and real estate projects in the floodplain of the Salt River through Phoenix.

Though events are beginning to move beyond Welsh's compass, his book is still timely. He shows how the pork barrel never really dies, but just changes colors. Though the CAP may be one of the last great new water resource development projects, some of the dams built in earlier days, including several upstream from Phoenix, are becoming old or outmoded. Does the federal responsibility end with project construction? Not if you believe most rock-ribbed conservatives in Arizona, who delight in attacking the federal government's involvement in just about everything except national defense and water projects. Concern about dam safety is the latest tool being used to wrest money from the federal treasury. Unsurprisingly, it has recently been introduced into the CAP saga, and Welsh treats it here in an illuminating way.

The citizens of Arizona are, in sticking their hands in the deep federal pocket, merely acting in their own self-interest, just as all good capitalists are supposed to do. It should, then, not be surprising that conservative Republicans tend to lead even free-spending Democrats on this one. Welsh's attack, though, is truly nonpartisan; from my perspective, perhaps too much so. I would have liked to have seen him train his sights more on the Reagan administration's philosophical dilemma: how to reconcile fiscal conservatism with federal pork barrel projects. In heavily Republican areas like much of the West, the answer seems to be simply that you do not reconcile them. Though Welsh does not mention it, for example, construction funding for Corps of Engineers projects (principally in the East) has remained steady since 1980, while funds for Bureau of Reclamation projects (exclusively in the West) doubled between 1980 and 1985.

Water in the West, the hackneyed but demonstrably true phase goes, runs uphill to money.

But the political establishment in Arizona is not stupid; it knows the national mood is shifting against more flagrant pork-barrel practices, so it is now shrewdly trying to grab all the federal gusto it can, and it might succeed with ploys like dam safety and the latest one—the hydropower scam. (The latter is compelling in its simplicity: The federal government produces hydropower at Hoover Dam well below market rates. Rather than sell it at a substantial "profit," the feds give it practically at cost to the state and local agencies, who can then retail much of it at market rates, and use the profit to repay their comparatively meager CAP debt to the feds.)

These events are still unfolding on the local scene, and I hope Welsh is prepared to do a sequel in a few years. Welsh's concluding recommendations are, however, not particularly important or politically feasible. The main one is simply to abolish the Bureau of Reclamation.

The book is eminently readable and easily accessible to the lay person without background in water resource development. There are a few charts and statistical summaries, but the meat is presented in Welsh's sprightly prose, as prickly as the cacti in Arizona's deserts, and in editorial cartoons and succinct, compelling graphics. For those uninitiated who wonder vaguely why water resource development in the West is at a "crisis" stage (as politicians and the media delight in reminding us), and who are curious to know more, this is a good book to read. It will allow you to exercise your sense of outrage and have some fun at the same time.

Two caveats, however. This is not the exhaustive book on Western water, and the author makes no such pretensions. And readers should not anticipate an "objective" analysis. Continued reliance on relatively abundant groundwater supplies, for example, carries with it its own economic, social, and environmental costs, but these are not mentioned or are given short shrift. Welsh is outraged, and the fact that he has considerable ammunition to fuel his anger is part of the appeal of this book.

With the entertaining romp he conducts through a rather Byzantine world, Frank Welsh has assumed a first rank in the growing pantheon of critics of the Bureau of Reclamation. He has performed a valuable public service by taking, as former Secretary of the Interior Stewart L. Udall observes in his foreword, a complex subject and producing clarity. Sunlight is the best disinfectant, it is said, and Welsh gives us a good dose of Arizona sunshine here. □

Statement of the Arlington Canal Co.

The Arlington Canal Company, an Arizona corporation, whose business since 1898 has been the delivery of water in the Arlington Valley, opposes any appropriation for funding Plan 6 of the Central Arizona Project.

The Arlington Canal Company has property rights to that surface water which is to be impounded and re-allocated by Plan 6. Property rights are protected by the Constitution of the United States and cannot be taken without due process and compensation. Plan 6 will impinge upon, and perhaps completely destroy these property rights without providing either due process or compensation. The federal government should make no investment in a program that makes no provision for the protection of existing property rights.

OPPOSITION—CENTRAL UTAH PROJECT

STATEMENT OF THE INTERMOUNTAIN WATER ALLIANCE

Dear Senator Hatfield:

We are submitting information on the Central Utah Project (CUP) for the Appropriations Subcommittee to consider before providing additional funds to complete this project as presently planned. The project is only 39% complete.

In November, 1985, a vote was held on the Supplemental Repayment Contract of the Bonneville Unit, CUP. This contract does not comply with legislation passed last year relating to cost obligations for federal water developments.

Nearly 25,000 taxpayers in Utah who voted against the contract still have serious concerns about the project which have not been satisfactorily addressed. These concerns include need for, safety of, and ability to construct the major dam voted on at the cost set; failure to clarify tax, legal, and water rights obligations; failure to fulfill mitigation obligations for the wildlife and stream flows affected by the project development. Due to the magnitude of the CUP, there are enormous impacts on fisheries, wildlife and recreation. These impacts have not been resolved to the satisfaction of the public. Tourism is at the top of the economic base of the State of Utah and outdoor recreation values are significant to people both inside and outside the State.

We request that you do not vote continuing funds for the CUP until there is finalization of the project configuration after a thorough evaluation of project objectives, alternatives, and costs - all as directed in the 1984 State Review Team Report. Pending resolution of project uncertainties, there should be a negotiation of a lawful supplemental repayment contract which requires full repayment to the federal government for all reimbursable costs associated with the final configuration.

ANALYSIS OF THE ECONOMIC, LEGAL, AND ENVIRONMENTAL ISSUES ASSOCIATED WITH THE BONNEVILLE UNIT, CENTRAL UTAH PROJECT

February 1986

Dear Representative;

This packet is designed to provide information on the Bonneville Unit, Central Utah Project, to Chairman George Miller and Representatives on the House Subcommittee on Water and Power Resources, House Interior Committee. This information covers issues on the Supplemental Repayment Contract as well as on other major issues of public concern in development of the Bonneville Unit. These issues represent concerns of the nearly 25,000 voters against the contract. They have sufficient substance to warrant serious consideratiion by the Subcommittee in light of possible mid-course corrections in this project.

Due to the magnitude and complexity of this project, Utahns tend to select issues which relate to their particular interest and locale.

Water supply and property tax issues are of general concern. United Park City Mines and residents of Heber Valley, where the Jordanelle Dam is to be built, share dam safety and other Valley concerns. Duchesne, where an oversized water treatment plant was built, resent repayment obligations. Stream and Utah Lake fishermen, hunters and wildlife folk resent loss of unique and valuable river basins and Utah Lake wetlands habitats to some features of the project, some of questionable need and value. They are angry at inadequate mitigation for these resources being carried out.

There is broad frustration at tactics of the Bureau of Reclamation and of the Central Utah Water Conservancy District to keep the project going, as planned, at any cost to anybody, without opening up the system to meaningful public involvement in State water planning. This should include the Bonneville Unit, as one component of water management. It would preclude the overriding dominance of the CUP over more cost effective water supply. There was great disappointment that issues presented in this packet were never seriously addressed prior to the November 19 vote on the contract.

With regard to committment to CUP, support has steadily eroded since the orignal 1965 contract was approved. In 1965, for instance, CUP was endorsed by voters 15 to 1. In the November 1985 election, that margin of endorsement withered to 3 to 1. In 1965, only 2,000 voters rejected CUP, while in 1985, almost 25,000 voters (who were provided some independent information) , voted no on the contract. This indicates significant support "slippage", especially since these 25,000 voters were turning down a more than generous Federal subsidy.

Contributors to these issues statements will be happy to provide additional information, as would other sources of expertise. We sincerely urge members of the Subcommittee to take full advantage of this review of the Supplemental Repayment Contract to evaluate needed mid-course corrections.

CONTRIBUTORS

Jon R. Miller, Associate Professor, Department of Economics, University of Utah
Salt Lake City

Leon Hansen, Geologist; former consultant Jordanelle Task Force organized by principle Park City Mining Companies to make available all factual data; President, L.A. Hansen Associates, Inc., Salt Lake City

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Fred Reimherr, Assistant Professor of Psychiatry, University of Utah Medical Center
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Douglas Day, former Director Utah Division Wildlife Resources
Chaired "Section 8 Ad Hoc Committee", Colorado River Wildlife Council; West Valley, City, Utah

Dorothy Harvey, Executive Director Intermountain Water Alliance
Citizen involved in wilderness, wildlife, water issues in Rocky Mountain region since 1971, Salt Lake City

James Wechsler, Biologist, Salt Lake City

Alan Miller, Coordinator Intermountain Water Alliance CUP Information Campaign 1985, Salt Lake City

Lillian Hayes, citizen monitoring CUP development since early 1970's, Provo, Utah

Henry E. Peterson, miner in Park City Mines for most of 45 years, Heber, Utah

LEGAL DEFICIENCIES OF THE SUPPLEMENTAL REPAYMENT CONTRACT

The Supplemental Repayment Contract is an ill-conceived stop-gap measure to secure continued funding of the Bonneville Unit of the Central Utah Project without first evaluating project objectives, alternatives and true costs. Furthermore, the Contract contains improper and unlawful provisions and does not require full repayment to the Federal government of all the reimbursable costs associated with the Bonneville Unit.

Deficiencies include:

a. The unlawful use of the repayment deferral provisions of the Water Supply Act and the unlawful shift of a $38 million ad valorem tax from irrigation repayment to Municipal and Industrial repayment (as reported in the General Accounting Office Report)·[1]

b. The improper use of a custom-designed cost allocation method for determining the costs allocated to the Municipal and Industrial purpose. [2]

c. The failure to finally resolve the Federal government's exposure on the "claims" which have been asserted against the United States by the Central Utah Water Conservancy District. [3]

d. The failure to address the costs associated with full implementation of the Ute Indian Deferral Agreement and the Instream Flow Agreement. [4]

e. The failure to require full repayment of all costs which may properly be allocated to the Municipal and Industrial purposes which, ironically, is the very issue which this Supplemental Repayment Contract was supposed to resolve. [5]

RECOMMENDATION

The Supplemental Repayment Contract should not be approved by Congress. Instead, the Bureau of Reclamation should be directed to:

l. finalize the project configuration after a thorough evaluation of project objectives, alternatives, and costs - all as directed by the State Review Team Report.[6]

2. resolve project uncertainties, and

3. then negotiate a lawful supplemental repayment contract which requires the full repayment to the Federal government for all reimbursable costs associated with that final configuration.

No money for continued construction of the Bonneville Unit should be appropriated until this is accomplished.

Footnotes

BONNEVILLE UNIT FROM A NATIONAL PERSPECTIVE SUBSTANTIAL ECONOMIC LOSS

From the perspective of the entire United States, the Bonneville Unit makes no economic sense. The three major reasons can be summarized in the areas of : (1) economic efficiency, (2) economic equity, and (3) fiscal prudence.

The Bonneville Unit provides no economic benefits to the nation as a whole. When calculated with appropriate procedures and current discount rates, the benefit-cost ratio is less than one, indicating a net loss on the nation's investment. The magnitude of this loss is most evident in the irrigation component of the project. At a time of national surpluses and depressed farm prices, the Bonneville Unit will bring very unproductive land into production. The Bureau of Reclamation calculates that farmers have the ability to pay back only $l6 million of the $9l5 million cost allocated to irrigation, over 50 years without interest. This is an inefficient, unproductive use of water and dollars.

The Bonneville Unit is inequitably funded. It relies on massive federal subsidies with federal tax dollars to maintain local demand to pay for the project. In addition to irrigation subsidies, municipal and industrial water users repay project costs at a 3.222% interest rate. Federal taxpayers, through interest subsidies, pay over half the cost of local municipal and industrial water.

Local proponents have counted on gaining support for the project, at whatever cost, by emphasizing the bargain this is. For example, in the October 5th, 1985 edition of the Salt Lake Tribune, project backers campaigning for the Supplemental Repayment Contract were quoted as saying, the project "was probably the best economic bargain going in the State of Utah". The news article explained that this claim was in reference to the fact that Utah water users will only have to repay about a quarter of the $2.2 billion cost.

At a time when all sectors of the nation are being asked to sacrifice to balance the Federal budget, and when the Utah Congressional delegation is at the forefront of this balanced budget campaign, Utah's Bonneville Unit continues to drain the U.S. Treasury. Losses could be on the order of billions of dollars over the life of the project.

RECOMMENDATION

Before further construction funds are allocated , Congress should review the necessity and efficiency of all features in the current Bonneville Unit as well as consider additional costs of resolving major issues of concern to Utahns throughout the l2 county Conservancy District.

Note: Farmers in the target area for CUP irrigation water sold 40,000 acre feet of their existing water to Intermountain Power Project for $l,750 an acre foot in full knowledge that they would be receiving and paying under $5 an acre foot for CUP delivered water.

Footnotes

IRRIGATION REPAYMENT OF DEVELOPMENT COSTS IN CUP DON'T MEET NATIONAL POLICIES

The Bonneville Unit is to provide a full water supply for irrigation of 27,340 acres of new land, a supplemental water supply to 216,250 acres of partially irrigated lands - all for alfalfa and small grain production. In Utah, there is approxiomately 10.5 million acres of land in farms with roughly 11.3% of this acreage irrigated. The Bureau of Reclamatioin irrigated acreage in the State in 3.4%.

In September, 1980, the Inspector General of the Department of Interior issued an Audit Report, "Review of Colorado River Storage Project and Related Individual Participating Projects, Water and Power Resources Service" which included a review of the Bonneville Unit. With respect to the beneficiaries of irrigation and their ability to pay, the report noted "... the Service (Bureau of Reclamation) recently completed an analysis which shows that since the date the Central Utah Water Conservancy District (CUWCD) executed its repayment contract (1965), the ability to pay for irrigators in the project service area has increased from $16,4 million to $69 million (1978)... When the CUWCD contract is amended to cover increased construction costs, the Service should at that time include contract language which insures that water rates paid by irrigators are based upon current periodic determinatioins of ability to pay"

The recently negotiated (1985) Supplemental Repayment Contracts for municipal and industrial water (M & I) from the Bonneville Unit state "that the repayment of irrigation costs will be based on the irrigator's ability to pay as provided for in the 1965 repayment contract. The Bureau's response for this approach, as well as undertaking no changes with respect to irrigation allocation, is "We considered this question very carefully when Reclamation developed the basis of negotiation for the Supplemental Repayment Contract. While it cannot be denied that the prices received for farm commodities have risen since the 1965 contract was executed, Reclamation's analysis of the issue indicates that increased farm income to pay for water is more than offset by increasing operatioin and maintenance costs of the project .... Reclamation is conducting a more in-depth review of the irrigator's ability to repay in the immediate future as planning for the Irrigation and Drainage System is completed". (Letter to Representative George Miller, November 22, 1985)

According to the General Accounting Office (GAO) report of September 9, 1985, on the repayment arrangements of the Central Utah Project, we read, "Since 1964, the amount of water to be delivered for irrigation has decreased by 23%. Yet, with increasing project costs and the modified allocation, irrigation costs are now estimated at $915.1 million (five fold increase since 1964 under the existing arrangement). Of this, $898.7 million will be beyond the irrigator's repayment obligation of $16.4 million and thus would primarily be repaid by power revenues from the Colorado River Storage Project.

RECOMMENDATION

Congress should seek removal of the provision in the 1985 Supplemental Repayment Contract which stipulates that the repayment of irrigation costs will be based on the 1965 contract. Further funding of the project should be held in abeyance until the irrigators ability to repay review is completed and implemented and the irrigation components of the project are assessed with respect to national policies. Note: the State CUP Review of 1984 recommended changes in the Irrigation and Drainage System planning which should be taken into account.

MANIPULATION ON USE OF POWER REVENUES TO LESSEN MUNICIPAL AND INDUSTRIAL WATER CHARGES

As part of the Bonneville Unit's multipurpose scope, 1.157,800 kilowatts of installed capacity was to be provided for generation of power for irrigation pumping and for commercial sale. In June of 1983, the Bureau of Reclamation published a draft environmental impact statement for an enlarged Diamond Fork Project (the power component of the CUP). As planned in the I964 Bonneville Unit Definite Plan Report, the Diamond Fork Project was a I30 megawatt flow-through system. In the 1983 draft EIS, it grew to an II82 megawatt pump back storage peaking power plant.

On may 8, I984, the Bureau and the Western Area Power Administration published a notice in the Federal Register soliciting interest in this project. The Bureau printed an information document for purposes of inviting interest and mailed it to approximately 200 entities, including preference customers, electric customers, utilities within the Colorado Storage Project market area, and other potential project participants outside this market area. This market test indicated little demand for Diamond Fork electricity. Only 12 entities expressed an interest in securing power. Current interest amounted to less than I9 % of the total capacity of the enlarged Diamond Fork Project. Costs for developing this project have been put at $1 billion.

Serious questions have been raised concerning need for additional power. Consider the following: the Intermountain Power Project (a 3,000 megawatt coal fired power plant in Central Utah) has been cut in half; Utah Power and Light has excess generating capacity; construction of the Moon Lake Power Project Unit 2 in eastern Utah is delayed indefinitely; the Allen-Werner Valley Project in Nevada is on hold; and the Washington Public Power Supply System has cancelled or mothballed 4 out or 5 nuclear projects in the Northwest, due to present excess generating capacity there.

Serious concerns have arisen with the Bureau's redesign of the project in use of their cost allocation procedures. The share of total project costs allocated to power users goes up substantially, as might be expected. But both the relative and absolute share of total costs allocated to municipal and industrial users goes down as well. By dramatically scaling up the size of power features and associated power benefits, a portion of joint costs previously allocated to M & I users is now allocated to power. On the strength of this revised Diamond Fork design, costs allocated to M & I dropped from $486 million in January I983 to $388 million in February I984.

Table 1

SOME ALTERNATIVE SOURCES OF WATER SUPPLY FOR USE IN SALT LAKE COUNTY

-----	Amount (AF)		Cost ($/AF)
Groundwater	241,000		75- 95
Groundwater Recharge	129,000		20- 67
Irrigation Water Transfer	245,000		10- 25
Additional Deer Creek	30,000		25- 45
Kennecott	165,000		25
Treated Wastewater	120,000	non-potable	16- 158
		potable	900-1100
Canyon Streams	93,000		483
Jordan River	42,700		50- 70
Dual Water System		both	197- 339
		indoor	101- 329
		outdoor	16- 158

CUP	70,000		250- 350
Willard Bay	170,000		8.50
Honeyville	100,000		70
Jordan R/GSL* Desalting			302- 418

Note: Each of the amounts of alternative sources of water should be compared to the 70,000 acre feet of Municipal and Industrial CUP water to be developed. These water sources already exist along the Wasatch Front.

* Great Salt Lake

ALTERNATIVE WATER SUPPLY OPPORTUNITIES HIDDEN FROM PUBLIC PENDING COMPLETION OF THE BONNEVILLE UNIT - PUBLIC GIVEN NO REAL CHOICE IN THEIR WATER MANAGEMENT

In order to complete the Bonneville Unit as planned, all alternative water supply opportunities along the Wasatch Front (Salt Lake Valley), target area for CUP water, have been purposely ignored and relevant facts have been hidden from public scrutiny. Hydrological facts demonstrate that there is an abundance of surface and ground water available along the Wasatch Front for years to come. Using a combination of structural and non-structural management technologies, this water closer to consumers can be managed more efficiently and at less cost than Bonneville Unit water. (see Table 1)

Projections of water demand by CUP developers are based on high per capita consumption of water in Utah (240 gallons per day). This demand is encouraged by pricing water at a cheap rate and pricing it cheaper for increased use. Demand projections do not include any likely reduction in demand which will take place when high cost CUP water comes on line. (see Table 2)

Projections of water supply are based on developing high quality stream water for single-time use for all consumptive purposes - indoor and outdoor municipal use, industry , and irrigation. Supply projections do not acknowledge huge water filings for irrigation purposes which are not being used along the Wasatch Front in urbanizing areas. Projections do not include water supply opportunities from dual water management utilizing available lower quality water for outdoor use, for low quality industrial purposes. Water supply projections do not include expanded management of ground water and recharge. The question asked is why are we insisting in developing our higher cost CUP water first, or even in combination with alternatives ? (see Tables 1 and 3.)

In the campaign on the vote on the Supplemental Repayment Contract, the public was not given opportunity to vote on a cost effective water supply - or even on a combination of CUP water and alternatives. In spite of the June 1985 completion of a Bureau of Reclamation study on Total Wasatch Front Water Resources, conclusions of this most recent study of available water resources were not revealed to the voting taxpayer. Instead, myths and misleading information, and the absence of relevant facts and open discussion made the choice presented to the voter one of CUP water or Utah's growth and development come to a standstill.

Myth: Bonneville Unit water storage is necessary in case of drought yet storage of water for drought purposes already exists in plentiful supply underground.

Misleading Information:

1. Jordanelle Dam to store Provo River water for Salt Lake County (the issue voted on), is a necessary component of CUP to claim Utah's share of Colorado River water. The Provo River is not in the Colorado River watershed. It is in the Wasatch Front watershed.
2. All Bonneville Unit features, as planned, are essential to claim Utah's share of Colorado River water. Yet structures for completion of capture of Colorado River water (the Strawberry Collection System) are nearly 90% completed. Water stored in Strawberry Reservoir (end of the collection system) can be put to beneficial use in the Uinta Basin for Ute Indians and non-Indians and can be used for stream flows. Colorado River water is already in storage for Wasatch Front use if and when needed.
3. "We will need all the water for growth and development on the Wasatch Front." There was no discussion of affordability of developing all the water in addition to paying for CUP water.

RECOMMENDATION

Congress should require fulfillment of Federal water project stipulations demonstrating actual planned utilization of alternatives as well as planned water conservation measures - before the contract is signed. Note: conservation means reduced water use - not just water storage.

Congress should cut all funding for the Bonneville Unit pending consideration by the taxpayers of all alternative water supply options * and of comparative costs. Three major options have been evaluated in the Bureau taxpayer supported study - "Identification and Assessment of Certain Water Management Options for the Wasatch Front" - pr epared by Vaughn Hansen Associates in association with CH2M Hill and Utah Water Research Laboratory, Utah State University. (June 1958)

*References

Table 2

WATER NEEDS PROJECTION, S L COUNTY

EXPECTED POPULATION INCREASE IN NEXT 25 YEARS = 425,000 OR 17,000 PER YEAR

17,000 people x $\frac{1}{4}$ $\frac{\text{AF}}{\text{person yr}}$ = 4250 $\frac{\text{AF}}{\text{yr}}$ additional

NOTE: A TYPICAL WELL CAN DELIVER 2-5000 AF/YR

AREA-WIDE STUDY ESTIMATES 2500 AF/YR DECREASE IN IRRIGATION USAGE

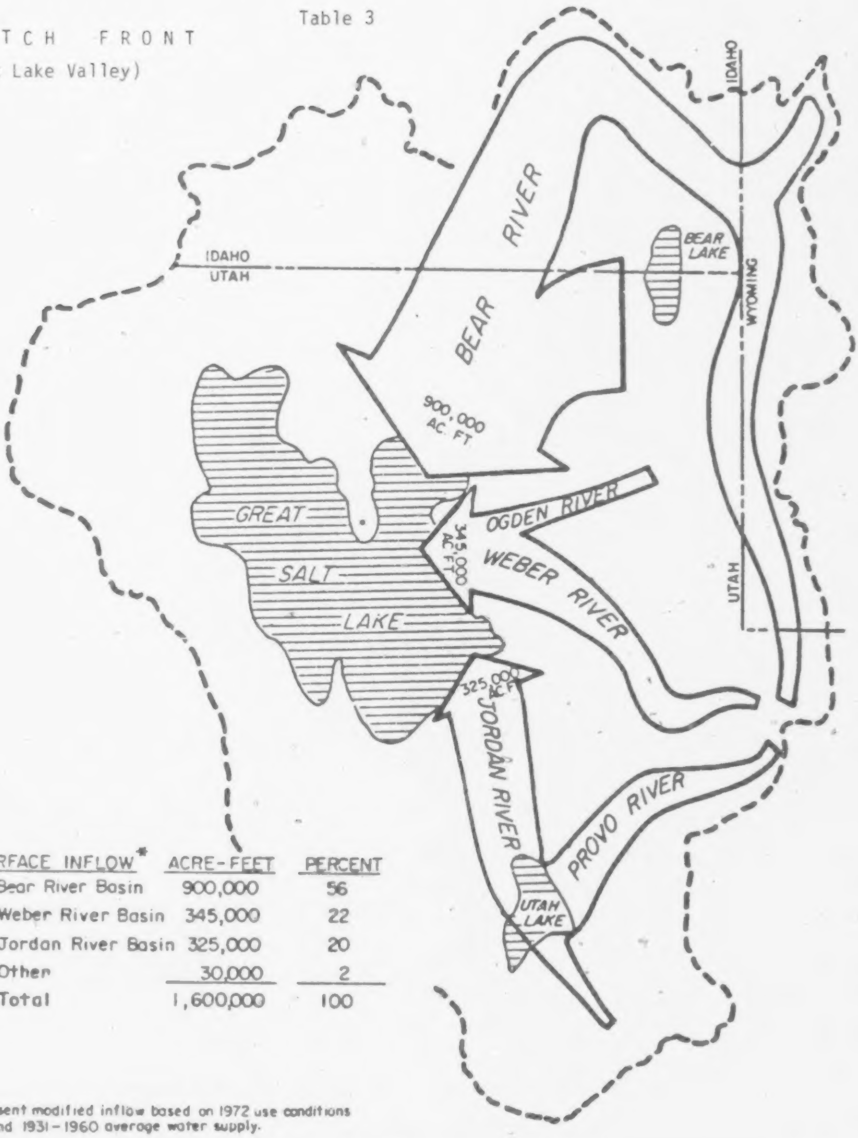
LOCAL SOURCES TOTAL OVER 1,000,000 AF AVAILABLE

THEREFORE, IF DEVELOP 5,000 AF/YR

NEEDS COULD BE MET FOR NEXT 200 YRS

Table 3

WASATCH FRONT
(Salt Lake Valley)


IDAHO
WYOMING
UTAH
IDAHO
UTAH
BEAR RIVER
BEAR LAKE
900,000 AC. FT
OGDEN RIVER
WEBER RIVER
345,000 AC. FT
GREAT SALT LAKE
325,000 AC. FT
JORDAN RIVER
PROVO RIVER
UTAH LAKE

SURFACE INFLOW*	ACRE-FEET	PERCENT
Bear River Basin	900,000	56
Weber River Basin	345,000	22
Jordan River Basin	325,000	20
Other	30,000	2
Total	1,600,000	100

*Present modified inflow based on 1972 use conditions and 1931-1960 average water supply.

Figure 11. Mean Annual Inflow into the Great Salt Lake and Surrounding Wildlife Refuges

Report: STATE DIVISION OF WATER RESOURCES

CONFLICT WITH PROVO CITY OVER FEDERAL "USURPATION' OF WATER RIGHTS
NEED FOR JORDANELLE DAM UNDER QUESTION

One of the greatest contributors to pressure on Congress to fund large state water projects such as the Bonneville Unit , CUP, is the inclination of states to recognize large volumes of water in a river system which in fact are not available. Junior water rights held by the Bureau of Reclamation (BOR) are practically worthless unless additional water (enough to support a particular project) is made available to the project. Congress is pursuaded to fund such projects based on false assumptions of water availability. Senior water rights, such as those of the City of Provo, are jeoardized - not by any valid claim to water but by the magnitude of the project. An example of overappropriation is the BOR's filings on the Provo River to support the "need" for the Jordanelle Reservoir, Municipal and Industrial System, CUP.

The Provo River was adjudicated in 1921 by the Morse decree stating there was an average annual flow of 300 cfs. These flows normally serve cities in Utah County along the Wasatch Front, including the 101.5 cfs claimed by the City of Provo. In late 1930's, BOR filings for the Deer Creek Reservoir, also on the Provo River, were recognized as being inadequate to support that reservoir, so foreign water was imported from the Weber and Duchesne Rivers to make the project feasible. If there was not enough water in Provo River to accommodate Deer Creek, where is the water to be obtained for another and larger storage facility, Jordanelle Dam, to be obtained?

The BOR has filed for 400 cfs of Provo River water for the CUP - an amount in excess of normal flow. This amount would be taken out of the river except when the river is low. Then it would be let out of storage in the Jordanelle Reservoir. Communities in Utah County who have rights to this average annual 300 cfs flow, see that Federal claims to a total amount of 629,500 acre feet (340,000 to be stored in Jordanelle Reservoir) will usurp their rights. This will force them to buy water back from the BOR at a higher cost. Provo City is in court to protect its water rights. If the city is successful, in this court action on some of their decreed rights, the Jordanelle Reservoir will not have the necessary water rights to make the Jordanelle Dam project feasible. (Control of the water rights by the Federal government assures the existence in Utah of the BOR - a situation not favored by many citizens.)

Utah and Salt Lake Counties are the two wettest counties in the State. They are in the CUP target area for Colorado River water along the Wasatch Front. There is 60,000,000 acre feet of ground water alone along the Wasatch Front (Salt Lake Valley). There is 30,000,000 acre feet of this in Utah County, some 10,000,000 useable. It would be cheaper to pump ground water from these sources than to pay the likely cost of one half billion dollars to construct the Jordanelle Dam safely and connecting highways. These are concerns of Heber Valley citizens.

The Jordanell Dam storage on the Provo River has nothing to do with claims to Colorado River water. CUP developers use such claims to justify construction of all features of the Bonneville Unit. During the campaign on the Supplemental Repayment Contract vote, people were misled on this issue.

Smaller storage dams for flood control high up on the Provo River are being proposed independently The State could construct such dams and include a surcharge for a kitty to provide funds for a second dam if needed.

RECOMMENDATION

Serious questions have been raised about construction of the Jordanelle Dam: geologic and seismic problems at the selected site; costs required to build a safe dam if undertaken - costs estimated to be far in excess of those voted on; lack of need of storage from a Jordanelle Dam; and legal conflict over necessary water rights to build a feasible dam.

The BOR has completed a $1,100,000 study on total Wasatch Front water resources (June 1985). Its conclusions were never revealed to voters on the contract. Since the public has no idea what it is to get from taking on additonal repayment obligations, or the need to do so, additional funding for the Jordanelle Dam should be stopped pending evaluation of alternative Wasatch Front resource and management options, and specific explanation to taxpayers.

THE JORDANELLE DAM SITE IS NEITHER PRACTICAL NOR SAFE - GEOLOGIC HAZARDS

In recent years, as consultant for the Jordanelle Task Force (organized to make available and relate to factual data on the Jordanelle Site), I reviewed the precise 100 year plus engineering and geologic history on the Greater Park City Mining District. The mines data represents 1000 miles of workings located west and east of the proposed Jordanelle Site. In earlier years I had participated in extensive mapping and geo-chemical work in the area; however, this work is a matter of prior record along with the other district maps and records. The objectivity in such records can neither be denied or ignored.

SOME FACTS ON THE JORDANELLE SITE WHICH HAVE TO BE OF GREAT CONCERN INCLUDE THE FOLLOWING;

A. The prospective Jordanell Dam Site is located at the east end of the Park City Mining District or at the junction of one of North America's major structural crossroads - where the Uintah Mountains intersect, or abut, the Wasatch Mountains.

B. The geologically complex site is the reason one of the West's larger metal districts is there - many square miles of ruptured, layered sedimentary rock, intruded many times by igneous rock, with attendant volcanism, fault-fissuring, veins and related mineralization and alteration (rusty, hot-water clays, etc.).

C. Most of the above structures have been followed by the extensive mine workings (about 1000 miles) located both west and east of the reservoir basin. Excessive water from these structures (fissure-vein faults) and their interconnecting aquifers (free-flowing rock formations) has been a principal obstacle to mining from the earliest days.

D. The multibillion dollar Park City Mining District has produced high grade gold-silver ores for over 100 years. Before disenchanted investors withdrew in the face of Jordanelle, production had been essentially continuous. Large ore reserves and potential reserves remain.

E. It is clear that the Jordanell Dam Site is within Utah's main seismic belt (determined by frequency and strength of earthquakes).

F. The susceptibility of the area to a major quake of the magnitude of 7 to 7.5 or 8 (variously described as due, overdue or imminent) has prompted the U.S.G.S. and others to calculate the fatalilties that could result if Pineview Reservoir (to the north) or Deer Creek Reservoir (to the south) were to fail. In 1976, these figures were 8,000 and 11,000 fatalities in Ogden and Provo, respectively. With respect to Deer Creek, Jordanelle would be located about 15 miles to the north; would drain thru; and would hold over twice the water volumn.

In brief summary the facts directly identify with or substantiate the following:

1. The foundation rocks at the dam site are very incompetent (weak) andesitic-mud-ash volcanics underlain by similarly weak sedimentary rocks.

2. The incompetent volcanics are overlain by deep channel gravels (to at least 99 feet below the valley surface).

3. Intense fault-fissuring traverse the reservoir area and dam site - especially the dam site.

4. The steep, dominantly east-northeast trending fault-fissures exhibit evidence for recent and re-current movement (displacing all rock types and the gravels) at the dam site, within the reservoir and south of the site.

5. Land slides (believed to relate to the above faulting) are located throughout the reservoir basin. An "active slide", located south of the site, exemplifies the instability of the site where recent geologically similar slides have been identified in both abutments.

6. Environmental silting, evaporation and local lake effects are questionable.

7. Environmental pollution hazards are present due to the excessive mineral content of the region (virtually cubic miles) which drains into and extends below the relatively stagnant 4 1/2 mile north arm of the prospective reservoir.

8. Seismic (structural - earthquake) environmental hazards are second only to California in the contiguous United States.

Over two decades ago drilling at the dam site had identified gravels to depths of nearly 100 feet; soft volcanics with open voids to depths exceeding 400 feet; then the drilling enters faulted segments of the weak (incompetent) Thaynes Formation. A broad zone of recurrent faulting (the Cottonwood Fault Zone) cuts through the dam site and is also joined by the South Flank Fault from the East. The Provo River follows the South Flank Fault (flanking the Uintah Mountains) from the east to the site. We are now told ..."We'll strip the dam site to bedrock, and then the engineers will design the dam based on what they find at that point..." (E.W. Clyde, Salt Lake Tribune, 9 October 1985).'

After 23 years of drilling:

BEDROCK ? At what depth ?
DAM DESIGN - When ? and at what cost ? .

An alternative site could be:

"PINE VALLEY ... 780 private acres
(16 mi. east: 1500 ft. higher)
vs. Jordanelle ... w/6600+private acres plus watershed acreage & excessive highway costs

The Bureau of Reclamation 's review panel acknowledged the highly compex geology with the layered soft, ashy volcanics with breccia and altered zones; unquestionably traversing faults; the related landslides; and in accommodation of defensives seismic measures in the dam design. The review panel states ... "We are not firmly establishing 3 meters as the maximum credible displacement ..." (emphasis on not is theirs) Based on a 6 to 6.5 magnitude, this is 10 to 100 times less than the strength of the "expected quake".

Other BOR, State and related consultant work has (in their full context) confirmed or complemented the geologic claims above including free-flowing water-fissure-aquifer problems which could severely impact future mining.

RECOMMENDATION

I CONTINUE TO SUPPORT, LONG RANGE WATER PROGRAMS WHETHER FOR UTAH OR ELSEWHERE. HOWEVER, CUP'S JORDANELLE DAM SITE IS NEITHER PRACTICAL OR SAFE. BECAUSE OF THE OVERWHELMING GEOLOGIC HAZARDS OF THE SITE, PLANNING AND CONSTRUCTION COSTS WILL PROVE TO BE UNACCEPTABLE - IF, IN FACT, SUCH A DAM CAN BE CONSTRUCTED SAFELY. THERE HAS BEEN MUCH AMBIGUOUS INFORMATION INCLUDING SOME SERIOUS MISINFORMATION. THERE ARE, IN FACT, FAR BETTER ALTERNATIVES WITHOUT THE LOSS OF OUR INVESTMENT IN CUP.

IT IS IMPERATIVE THAT AN ALTERNATIVE IS SELECTED FOR THE JORDANELLE DAM SITE.

Leon A. Hansen. Geologist
Former Consultant "Jordanelle Task Force -
Organized by principle Park City Mining Companies to make available all factual data.
President, L.A. Hansen Associates, Inc.

FOOTNOTES

The Jordanelle Dam Site is Neither Practical Nor Safe - Geologic Hazards

Not long before local voters were asked to commit to expanded CUP costs, many interesting comments were in the news. Of particular interest were certain comments by Messrs. Edward W. Clyde, local water attorney and counsel for the Central Utah Water Conservancy District and Ellis L. Armstrong, local engineering consultant and former U.S.Commissioner of Reclamation. I refer specifically to Mr. Clyde's stated desire..."to present the facts..." (UPI, Deseret News, 31 October l985) and to Mr. Armstrong's ..."respect for objective professionals..." (Deseret News, 13 November, l985). However, to round out this "factual - experience base" we must include the documented experience of local mining engineers and geologists: the U.S.S.; the factual context of BOR and State geotechnical people - their consultants - andother "responsible" professor-graduate student work and research studies.

Like Mr. Armstrong, I also believe that ... "all voters have a responsibility to weigh the facts ..." and I would add, a "right to know the facts ". If "all the facts " were known - including the full context of the BOR, State and consultant studies , there is no doubt the majority opinion (official and private) would reject the Jordanelle element of the CUP.

-Leon Hansen

OPINIONS OF CITIZENS

My husband, Henry E. Peterson, has lived in Heber Valley and worked in the mines near by for most of 45 years. He and all the other miners, as well as all the old time residents, know of all the many slides, fissures, and faults in the whole area and know that many of them are vertical. This makes them not easy to find by drilling. However, they would easily be found by the water in the Jordanelle Reservoir.

Two major faults, the Hawkeye and the No. 9, and two fissures, the Pearl and the Silver, have been mapped down as deep as 2000 feet and no one knows how much further or in which direction they go from there.

I am appalled by the tactics our politicians use to try to get this dam built and how they have closesd their eyes and ears to the very valid geologic hazards. Please do everything you can to cut funds for the Jordanelle Dam. A dam there will not hold and taxpayers will end up paying two bills: one for building the dam and one for damages when it goes out.

Ruth G. Peterson
Box 374
Midway, Utah, 84094

The Bureau of Reclamation is autonomous. There is no agency acting in a review capacity. Bureau philosophy is "it is the design that counts." "Geology" is a distasteful word to them, and there is little compunction to respect it in their planning. I have been following the Bonneville Unit and BOR geologic operations through the l970's and the l980's.

Because of the refusal to consider adequately the geological hazards of the building sites, costs of their projects have escalated and contractors have gone broke while insisting that the conditions were not as the Bureau had indicated.

A serious situation is now facing the BOR regarding the facility to transport water from the proposed Jordanelle Dam to the Wasatch Front. An 8 1/2 foot diameter pipeline, traversing a square-mile landslide in Provo Canyon, built in 1937 by Utah Power & Light Company, is planned to transport the water for the Bureau project. For the past 3 or 4 years, a portion of the huge landslide has been moving downhill and the pipeline has been damaged and repaired several times at heavy cost to U P & L. The slide is moving at the present time and has begun to encroach on the Provo River immediately below the pipeline.

RECOMMENDATION

THE CITIZENS OF UTAH ARE GOING TO BE INHERITING HUGE REPAIR AND MAINTENANCE COSTS ON PROJECTS WHICH HAVE BEEN BUILT IN HOSTILE GEOLOGIC ENVIRONMENTS. AN INDEPENDENT REVIEW AND ASSESSMENT OF THE NATURAL CONDITIONS IN WHICH THE CUP IS BEING CONSTRUCTED SHOULD BE MADE BEFORE ANY FURTHER DEVELOPMENT IS FUNDED.

Lillian Hayes
190 S. 300 E.
Provo, Utah 84601

ENORMOUS LOSS OF WETLANDS AND WILDLIFE DUE TO DIKING UTAH LAKE

The diking of Utah Lake is directly related to construction of the Jordanelle Dam. Neither of these issues is connected to Utah's claim to Colorado River water. They are related as systems of the Bonneville Unit only by paper exchange. Diking of Utah Lake (Irrigation and Drainage System) would diminish the size of Utah Lake, salvage normally evaporating water and exchange this "salvaged" water to compensate for irrigating lands lost under Jordanelle Reservoir. If Provo Bay were diked and drained, the reclaimed land likely never would be used for irrigation since the city of Provo is rapidly urbanizing.

Utah Lake is the largest natural freshwater lake west of the Mississippi River It is a valuable warm water inland lake in chemical and biological balance. It provides production, nesting and feeding habitat for a diversity of wildlife including frogs, snakes, pheasants, muskrats, raccoons, passerine birds, raptors, "shore birds" and waterfowl, seasonal as well as migratory. It is part of a local major flyway and Bellrose* considers the Great Salt Lake marsh complex, which includes Utah Lake marshes, to be an extremely important habitat in the intermountain area for a variety of waterfowl species. These include mallard, pintail, canvasback, redheads. Large numbers of Canada geese, redheads, cinnamon teal and other waterfowl depend on Utah Lake wetlands for nesting and migrating habitat. Western grebe, white pelican, great blue and night heron, snow and cattle egret, cormorant, American coot, and other marsh inhabiting birds nest and/or feed on Utah Lake. All of these species have high public value.

Utah Lake fish include walleye, channel catfish, black bullhead, carp and bass. Angling for these is a popular sport in central Utah.

Endangered Species

Utah Lake is historic habitat for endangered peregrine falcon which nested on cliffs in the nearby Wasatch Mountains and hunted food in Utah Lake marshes. While the last record of nesting peregrines was in 1968, the Peregrine Falcon Recovery Plan recommends their reintroduction into Provo Bay. Bald eagles winter around Utah Lake and feed in the marshes.

Utah Lake is the only existing habitat for June Sucker, proposed for listing as an endangered species. (FR, Vol. 49, No. 128, page 27183) Several miles of the lower Provo River, which flows into Utah Lake, are spawning areas and proposed critical habitat for the June Sucker. June Suckers congregate in Provo Bay at certain times of the year. Endangered Species are protected by the Endangered Species Act and by Executive Order 11990, Protection of Wetlands, May 25, 1977.

RECOMMENDATION

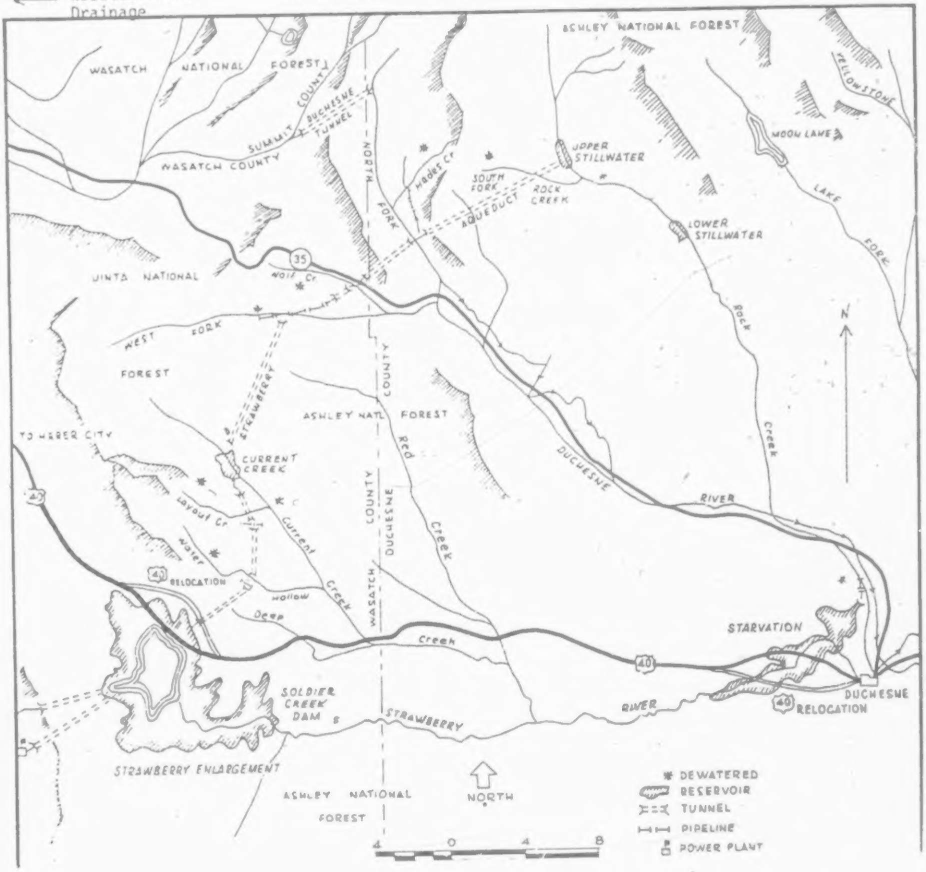
Congress should cut funds for the Bonneville Unit pending reevaluation of need for the Jordanelle Dam (Municipal and Industrial System); readily available water supply along the Wasatch Front; and need for the diking of Utah Lake. Reevaluation needs to take place in a spectrum of changing Bonneville Unit plans which fit contemporary values - not reevaluating a similar Bonneville Unit.

*"Ducks, Geese, and Swans of North America"

TWELVE MOUNTAIN TROUT STREAMS AND RIVERS TO BE TOTALLY OR PARTIALLY DEWATERED FOR BONNEVILLE UNIT DEVELOPMENT

← Wasatch Front Drainage

Rivers With Asterisk * All Drain Into Colorado River East of Here →


WASATCH NATIONAL FOREST
ASHLEY NATIONAL FOREST
YELLOWSTONE
MOON LAKE
SUMMIT COUNTY
DUCHESNE COUNTY
DUCHESNE TUNNEL
WASATCH COUNTY
NORTH FORK
Hades Cr.
UPPER STILLWATER
SOUTH FORK
ROCK CREEK
AQUEDUCT
LOWER STILLWATER
LAKE FORK
35
Wolf Cr.
UINTA NATIONAL FOREST
WEST FORK
STRAWBERRY
Rock Creek
N
ASHLEY NAT'L FOREST
Red Creek
TO HEBER CITY
CURRENT CREEK
DUCHESNE RIVER
40
Layout Cr.
Water
Current Creek
WASATCH COUNTY
DUCHESNE COUNTY
40 RELOCATION
Hollow
Deep Creek
STARVATION
SOLDIER CREEK DAM
STRAWBERRY RIVER
DUCHESNE
40 RELOCATION
STRAWBERRY ENLARGEMENT
ASHLEY NATIONAL FOREST
NORTH
* DEWATERED
RESERVOIR
TUNNEL
PIPELINE
POWER PLANT
4 0 4 8

BUREAU OF RECLAMATION AND CENTRAL UTAH WATER CONSERVANCY DISTRICT ARE FAILING TO IMPLEMENT THE INSTREAM FLOW AGREEMENT ON CUP RIVERS

PROBLEM - Many of Utah's Best Trout Streams Will Be Destroyed by the CUP Even Though There is Excess Project Water Which Could Be Used to Preserve These Streams

Many of Utah's most beautiful high mountain trout streams will be destroyed by operation of the CUP's Bonneville Unit. The following streams will be left essentially dry stream beds: Rock Creek at the Upper Stillwater damsite; South Fork Rock Creek; West Fork Duchesne at Vat Diversion Structure; Strawberry River at Starvation Dam; Hades Creek; Wolf Creek; Layout Creek; and Water Hollow Creek.

Others will suffer biologically damaging stream flow reductions: Rock Creek at Forest Service Line (68% reduction); West Fork Duchesne above Wolf Creek (67% reduction); Current Creek at damsite (75% reduction)*; Current Creek at Highway (42% reduction)*; Strawberry at Soldier Creek Dam (79% reduction)*; Strawberry at Willow Creek (60% reduction)*; Duchesne River at Hanna (25% reduction); Provo River near Woodland (55% reduction); and Provo River just above Utah Lake (87% reduction in winter flow).

These streams will become aquatic "death traps". The Central Utah Water Conservancy District (CUWCD) and the Bureau of Reclamation (BOR) plan to take the entire summer, fall, and winter flow but during spring runoff each year water will flow in many of these streams and thousands of fish, particularly cutthroat trout, will enter them to spawn. As spring runoff ends they will be left to suffocate when the water is turned off.

In 1979, extreme pressure from sportsmen in Utah, the EPA, the Forest Service and the Utah Division of Wildlife Resources, forced the BOR to agree to a stream flow compromise in order to obtain U.S. Army Corps of Engineers 404 permit needed for continued construction. Resolving this problem was also a contingency in the EPA's approval of the Environmental Impact Statement for the Bonneville Unit's Jordanelle Dam. However, it now appears that the CUWCD and the BOR are unwilling to keep this agreement. According to the State Review of the CUP,

"A reduced transmountain diversion is not considered by the BOR and the CUWCD to be a viable alternative (to meet the stream flow agreement)."

The report on the CUP also indicates that there is surplus water available which could be used to solve the stream flow problem while at the same time reallocating more water to eastern Utah's farmers and Indians. (The use of 27,500 acre feet of Utah Power & Light water is recommended.)

During the recent election on the CUP, the people of Utah were informed by some of the highest ranking water officials in the state that this problem did not in fact exist. According to Edward W. Clyde, lawyer for the CUWCD,

"The (CUP) project is not going to be storing water during these low flow periods and will not cause the low flows; but it has agreed to use project stored water to help with the cure (for low flow problems on these streams)" This type of statement was made repeatedly during the CUP election.

Spawning habitat for endangered June Sucker in the lower Provo River is receiving inadequate attention from the BOR and the CUWCD. Foraging habitat for Colorado squawfish in the lower Duchesne and Uintah rivers is receiving no attention from the BOR and the CUWCD. These are endangered species subject to protection under the Endangered Species Act.

RECOMMENDATION

Congress should insert language in the Supplemental Repayment Contract legally requiring biologically non-destructive streamflows on all Bonneville Unit streams, and compliance with the Endangered Species Act.

*stream flow compromise may cause these figures to be increased

Map

WHOLLY INADEQUATE MITIGATION OF FISH AND WILDLIFE HABITAT LOSSES

Large water projects by their very size, have many impacts in the region in which they are built. Federal water projects have a substantial negative impact on fish and wildlife resources in Colorado, New Mexico, Utah and Wyoming.

The necessity of mitigation for fish and wildlife habitat losses is recognized by Section 8 of the Colorado River Storage Act. Construction of the Bonneville Unit of the CUP requires both appropriation of Section 8 funds by Congress and the actual use of these funds for this purpose by the Bureau of Reclamation.

Just prior to 1982, Section 8 funding to the Bureau of Reclamation was about $12 million per year. Since that time drastic funding reductions have almost completely stymied the project.

Fiscal Year	Funds Needed	Funds Provided
1982	$9.5 million	$4.8 million
1983	$17.4 million	$2.6 million
1984	Budget requested	$1.0 million
1985	unavailable from	$1.9 million
1986	Reclamation	$1.1 million

During this period of precipitously falling funding levels, new construction and normally - rising costs have made more funds a necessityfor maintaining existing projects to mitigate fish and wildlife habitat losses.

Continuing construction of the Bonneville Unit of the CUP requires that four separate items be funded under Section 8 during FY 1987. These items are:

1. Fishing access - Strawberry River, Current Creek, West Fork of the Duchesne.

2. Construction of the Strawberry Exchange.

3. Instream Flow Agreement. (Construction)

4. Terrestrial Mitigation . (Land aquisition)

It is estimated that these four items would require at least half of the $20 million dollars necessary to put Section 8 programs back on track.

Funding of Section 8 programs at a reasonable level is a necessity to ensure that water development does not seriously damage two major money -making industries in the Upper Colorado Region - tourism and recreation. Without adequate funding these industries, which are the life-blood of many parts of the region, will be sacrificed along with valuable segments of the wildlife environment to the irrigation of marginal land and questionable procedures for enhancing municipal and industrial water supplies.

CUTTING CUP FUNDS NECESSARY TO FORCE EFFICIENT AND DEMOCRATIC MANAGEMENT BY THE CENTRAL UTAH WATER CONSERVANCY DISTRICT

The Central Utah Water Conservancy District (CUWCD), local sponsor of the Central Utah Project (CUP) has a history of mismanagement and of unresponsiveness to its taxpayers. The CUWCD can be forced to operate in an efficient and democratic fashion only by a denial of funds pending corrective action.

The CUWCD was established by court decree and not by elected representatives. For many years, until a decision of the Utah Supreme Court in 1984, members of its board of directors were appointed by district court judges. The CUWCD strenuously resisted any change although it was quite clear that this method of appointment violated the separation-of-powers doctrine. Members of the CUWCD board are now appointed by the governor. This change has overcome the legal problem but not the problem of accountability.

The CUWCD board, albeit an appointed board, has the power to levy property taxes. This is contrary to the fundamental tenet that the public should have the right to elect those who tax them. Indeed, the Deseret News has recently editorialized (copy attached) that boards with taxing authority should be elected.

The lack of accountability of the CUWCD board has been evident in other ways. The CUWCD recently spent many thousands of tax dollars in disseminating "information" (which many considered to be false or misleading) favorable to an affirmative vote on the Supplemental Repayment Contract. The CUWCD attempted, with some success, to suppress a report by the Water Research Laboratory at Utah State University which was critical of interbasin transfers (such as the Bonneville Unit). This report indicated the presence of surplus water along the Wasatch Front CUP target area and alternative water management opportunities.

Several members of the CUWCD board have serious conflicts of interest. This persists despite a statutory oath (Sec. 73-9-10, Utah Code Annotated) that each board member "... will not be interested directly or indirectly in any contract entered into by the district".

Representation on the CUWCD board is grossly unfair and not in conformity with the one man/one vote principle. Salt Lake County is illustrative. Salt Lake County comprises 66 percent of the CUWCD population and pays 66 percent of property taxes collected. However, Salt Lake County is projected to receive only 24 percent of the total water to be developed and is represented on the CUWCD board by only 29 percent of its membership.

This lack of accountability has also contributed to wasteful practices and poor planning by the CUWCD. A listing would be lengthy, but two are illustrative. CUP funds have been used to construct a bowling alley in Duchesne, Utah. The State Review of the Bonneville Unit (1984) reports on page 23 that the Duchesne Valley Treatment Plant, completed in 1982, has a capacity 14 times the present demand --and with little likelihood that demand will increase much for many years and may further decline.

It should be noted that the Ultimate Phase, Ute Indian Unit, CUP, was declared to be infeasible by the Bureau of Reclamation in 1981. This unit was to resolve Ute Indian water rights. In place of this sixth unit of the CUP, construction of water treatment plants was substituted. A recent legislative audit suggested that there had been no legal examination of CUWCD authority for such construction. There was no public or congressional authorization of this substitution.

The Ute Indian Tribe agreed to defer use of their irrigation water until the year 2005 (Deferral Agreement) in order to justify the transbasin diversion of their water for the Bonneville Unit. A major premise was simultaneous construction of compensatory features for the Tribe. Such action did not take place.

RECOMMENDATION

Because of lack of accountability of the CUWCD board, this mismanagement and unresponsiveness can be expected to continue. Corrective action can be brought about only by control of CUP funding. It is respectively urged that CUP funding be denied until the CUWCD puts its house in order. This includes compensation to the Ute Tribe which is acceptable to both the Tribe and to Congress.

* See Deseret News article, December 1, 1985

In our opinion

The Mountain West's first newspaper
DESERET NEWS
Founded June 15, 1850 Salt Lake City, Utah

Should Utah water boards be filled by election?

Should regional water boards be elected?

A new tax protest group, Citizens for Utah Tax Reform, thinks so. It even passed a resolution recently claiming the 12-county Central Utah Water Conservancy District (CUWCD), which oversees the Central Utah Project, is guilty of taxation without representation.

That claim comes because CUWCD board members — who collectively have the power to levy property taxes — are appointed by the governor, who selects from nominations by county commissioners. Board members are not elected. The district charges 2 mills of tax a year, about $17 on a $70,000 home.

Bill Prue, spokesman for Citizens for Utah Tax Reform, said he feels CUWCD board members would have worked harder to overcome the myriad problems that have delayed the CUP and increased its cost by six-fold had they been held directly accountable to the public through elections.

Prue's group has a point. Boards with the power to impose property taxes usually have elected leaders. The only exceptions seem to be regional water boards and mosquito abatement district boards. School districts, cities, counties, small water and sewer districts and even recreation districts all have elected trustees.

True, many governmental advisory boards are appointed. But most only make recommendations on how to spend tax dollars, and do not have the power to actually levy taxes themselves.

Still, some arguments are made to retain the appointment system. CUWCD General Manager Don Christiansen said he discovered several when he led a group of Utah County mayors that successfully sued to end water board appointments made by the courts insteads of government's executive and legislative branches.

He said the group originally favored having water board members elected. But after talking to water officials and legislators, it decided better qualified directors could be attracted through the appointment process. "Many highly qualified people would not put their name on a ballot, but would accept an appointment," Christiansen said.

However, by using the same philosophy, it could be argued that higher quality mayors and county commissioners could be attracted through appointment and therefore should no longer be elected either. If the argument were extended far enough, it would favor monarchy. Americans have found such ideas revolting ever since the Boston Tea Party.

Also, Christiansen said, special elections for smaller water and sewer district trustees have historically attracted only 1- or 2-percent voter turnouts. Therefore, he said, they are not truly representative either.

He may be right, but that problem could be corrected. Instead of allowing such elections on special dates, the Legislature should mandate they be held during regular municipal, primary or general elections. That would help ensure better voter turnouts, and the press would likely give more attention to candidates and issues.

The Legislature should make changes to ensure that boards with taxing authority be elected. The public should have the basic right to elect those who tax them.

FOOTNOTES

LEGAL DEFICIENCIES OF THE SUPPLEMENTAL REPAYMENT CONTRACT

1. See U.S. General Accounting Office, Report to Honorable Howard M Metzenbaum, U.S. Senate, "Bureau of Reclamation's Central Utah and Central Valley Project, Repayment Arrangements" GAO/RCED-85-158 (September 9, 1985).

2. It would appear that the Department of Energy Organization Act of 1977 requires Congressional approval of the reallocation of costs of multipurpose facilities in this fashion.

3. See, e.g., Supplemental Repayment Contract at 1(a) (7) and 1 (b).

4. See Contract No. 14-06-W-194 among the United States (Bureau of Reclamation and Bureau of Indian Affairs), the Ute Indian Tribe, and the Central Utah Water Conservancy District dated September 30, 1965; and Instream Flow Agreement among United States, State of Utah, and Central Utah Water Conservancy District dated February 1980.

5. See e.g., Testimony of Robert N. Broadbent before the Senate Committee of Energy and Natural Resources, Subcommittee on Water and Power, on S.662, May 2, 1983; and Amendatory Contracts Among the United States of America, the Texas Water Development Board, and the Lavaca-Navidad River Authority, Palmetto Bend Reclamation Project, Texas, January 9, 1976, Article 6.

6. State Review of the Bonneville Unit, Central Utah Project, Final Report, December , 1984.
7. Colorado River Storage Act, April 11, 1956 (70 Stat 105)

BONNEVILLE UNIT FROM A NATIONAL PERSPECTIVE: SUBSTANTIAL ECONOMIC LOSS

1. "On a Midcourse Correction for the Bonneville Unit of the Central Utah Project" - Jon R. Miller, Associate Professor, Department of Economics, University of Utah, April 1984

2. "Toward Improving Public Accountability in Utah Water Policy - Comments of the National Wildlife Federation and the Utah Wildlife Federation on the Draft State Review of the Bonneville Unit of the Central Utah Project" - Jon R. Miller, Associate Professor, Department of Economics, University of Utah and Eugene Riordan, Attorney for the National Wildlife Federation, October 1984

3 "On the Behavior of Western Water Agencies under Stress: Renegotiating the Bonnevill Unit of the Central Utah Project"- Jon R. Miller, Associate Professor, Department of Economics, University of Utah, January 1985

4. "The Political Economy of Western Water Finance: Cost Allocation and the Bonneville Unit of the Central Utah Project - Jon R. Miller, Associate Professor, Department of Economics, University of Utah, 1985. Working Paper #85-5, Division of Social Science Research, Center for Public Affairs and Administration

Publications in Professional Journals (related to water management)

"Distributional Issues in Western Municipal and Industrial Water Supply", Water Resources Bulletin, 19 (August 1983), 631-640. (With Danial A. Underwood)

"Normalized Agricultural Prices and Water Resources Planning, " Water Resources Bulletin, 16 (June, 1980): 471-76

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6. 1972 Nielsen, Maxwell, Wangsgard Consulting Engineers report for Salt Lake County Commission
7. Weber Basin Conservancy District records. Weber Basin reports. Further data being developed on Weber Basin.
8. "Identification and Assessment of Certain Water Management Options for the Wasatch Front." Prepared for State Division of Water Resources. Study prepared under grant from Bureau of Reclamation. Prepared by Vaughn Hansen Associates in association with CH2M Hill and Utah State Water Research Laboratory. June 1985
9. "Impediments to Effective Interaction Between Multipurpose Water Districts and Other Governmental Institutions in Urbanizing Areas" - Jay M Bagley, Frank W. Haws, Wendell B. Anderson, Daniel H. Huggan, Lee Kapaloski, Utah Water Research Laboratory, Utah State University, July 1983

SUBCOMMITTEE RECESS

Senator DOMENICI. The committee will reconvene at 2 o'clock this afternoon.

[Whereupon, at 11:50 a.m., the subcommittee was recessed to reconvene at 2 p.m. this same day.]

1960

(AFTERNOON SESSION, 2:05 P.M., TUESDAY, APRIL 15, 1986)

NONDEPARTMENTAL WITNESSES

OPENING REMARKS

Senator COCHRAN [presiding]. The subcommittee will please come to order.

The chairman of our full committee is also chairman of this subcommittee, Senator Mark Hatfield. He has asked me to chair this hearing today in his absence. He regrets that he cannot be here. On behalf of Senator Hatfield and our committee, I want to welcome each of you here and thank you for your assistance in reviewing and evaluating the various projects and programs that come under the jurisdiction of this subcommittee.

We have a large number of witnesses today who wish to be heard. We want to hear each one of you, and therefore, in accordance with the notice the committee staff furnished to you, it will take some self-restraint on everybody's part, because of the large number of people here, to be sure that everybody will have an opportunity to testify.

We have the written statements which you have prepared and we thank you for them. That is very helpful to us. That will enable all the members of the subcommittee, whether they are able to be here today or not, to review your suggestions and your thoughts about the programs as we try to make the correct decisions about levels of funding for all of the projects in which you are interested. We ask you to make summary comments or highlight those statements for us during the oral testimony. This will give us an opportunity for questions and discussion.

I notice that the first group who is before us today at the witness table is from the Lower Mississippi River Valley Flood Control Association. We know these witnesses very well. We appreciate your taking the time to come here today and discuss the activities in your area which are subject of the budget request.

The lower Mississippi River valley, as everybody knows, serves as the drainage for almost half of the water in the United States; it flows right through our area like a funnel. We have a lot of problems as a result of that from time to time, many of which I am personally acquainted with, and I know all of you are, as well, who are here to testify concerning the lower Mississippi River Valley and its flooding problems and the effort that is being made to address those problems, to solve them.

Before we proceed, I would like to recognize Senator Stennis, the senior minority member of the subcommittee and full committee, for any comments or observations he may have today.

Senator Stennis?

NEW COST-SHARING REQUIREMENTS

Senator STENNIS. Mr. Chairman, let me warmly thank you for giving me a chance to say just a few words at this time. I will not take over 4 or 5 minutes.

You have here a number of witnesses that came a long way to testify about these important matters. I want the time to go to them. But Mr. Chairman, by way of review, in 1927 the Mississippi River went on a rampage that we should never forget. The terrible flooding of that year cost 246 people their lives; around another 700,000 were left homeless. The damages amounted to hundreds of millions of dollars in an area of flooding that encompassed approximately 25,000 square miles.

It was out of this great misery and suffering that the Congress recognized the necessity for Federal direction and financial responsibility for flood control of the Mississippi River and its tributaries.

Congress established in the Flood Control Act of 1928 that national responsibility for flood protection, that to be the means for the Nation to apply its power and resources to the problems of periodic damaging floods. It was recognized at that time that to solve this problem we would have to share equally in the huge cost of correcting these problems.

It was recognized that local communities would never be able to bear the cost burden if they had to go it alone.

For this reason, I have expressed my concern that these new cost-sharing provisions contained in the omnibus water authorization bill—and Senator, we joined in a statement on this matter on the floor of the Senate at the time the recent bill was considered—contending this would be too heavy a burden on the small communities that still are awaiting protection under a big project like the one authorized in the 1928 Act that would control the Mississippi River and its tributaries.

It is my interest, intent now, to continue to work with the leadership and members of the Senate and the House committees and all the membership as this bill is considered in conference after it has passed each House, as well as before, to try and achieve the commendation for what I believe was a basic commitment the U.S. Government made in 1928.

I thank you for this time, and for the reasons I have said, I will defer now, but I am vitally concerned about every feature of what we have before us.

Senator COCHRAN. Thank you, Senator, for that excellent statement, with which I agree completely. It was well said, and the historical context of some of our projects today needs to be remembered and kept in mind.

Senator Bumpers?

STATEMENT OF HON. DALE BUMPERS, U.S. SENATOR FROM ARKANSAS

Senator BUMPERS. Mr. Chairman, as you know, I am not a member of this subcommittee, but I always come down every year to express my thanks on projects that affect my State, and I thank you very much for your indulgence, if you will, for just 3 or 4 minutes.

I want, first of all, to welcome all the people from Arkansas who represent the various river basin associations and who have come to testify, both in the House and here in the Senate. The members of the Arkansas River Basin Interstate Committee appeared yesterday, and today members of the Lower Mississippi Valley Flood Control Association and the Red River Valley Association will testify.

In addition to that, testimony has been submitted for the record by representatives of the Ouachita River Valley Association.

RED RIVER BANK AND LEVEE PROTECTION PROJECTS

Mr. Chairman, if I may ask that my full statement be inserted in the record, I now simply want to say that the comprehensive bank stabilization project along the Red River from Shreveport to Index is very important. We are losing 1,000 acres of farmland every year and will continue to until we get this bank stabilization project going and get it completed. There is $520,000 requested in the Corps budget, and I wholeheartedly support that funding.

In addition to that, we are in desperate need of continued funding for the Red River emergency bank protection project and the Red River levees and bank stabilization below Denison Dam. I certainly support the request for $15,100,000 for the Red River emergency bank protection project and full Corps capability for the Red River levees and bank stabilization below Denison Dam.

McCLELLAN-KERR NAVIGATION SYSTEM

It was brought to my attention last year that the Corps sought to close out future authority for additional construction on the McClellan-Kerr navigation project. I think that would be extremely unwise. I said at the time I would oppose that strongly and as vigorously as possible. I want to reiterate my position again today. I would be unrelenting in my opposition to the deauthorization of that project.

Finally, Mr. Chairman, I want to say that we just passed a water authorization bill which is not pleasing to a lot of people; I am one of them. It was one of those times when you sort of wish you could vote half yes and half no. The cost-sharing provisions of that bill are absolutely devastating to some of the projects in my State. I don't know how those provisions will come out of conference. I am told, and have been told on the floor of the Senate many times, that the President wouldn't sign the bill if the cost-sharing provisions of the Senate bill are not included in the final legislation.

Perhaps that is the case, but there are a lot of things in there that we desperately need—off-channel harbors, some flood protection projects, and so on. The fact that no money is appropriated, the projects are just authorized, doesn't really make that much difference if the cost sharing is left at its present level.

LITTLE ROCK PORT, SECTION 107 PROJECT

We have a situation in Little Rock that is not resolved yet, because of the administration's desire to enact user fee and cost-sharing legislation. The Corps continues to drag its feet on a section 107 small navigation project that the city of Little Rock has been working on for years. Out of $6.5 million project cost, the city is willing to put up $4.5 million, leaving only $2 million for the Corps. We are putting up 70 percent of the money and they are still hassling us. Yet the administration keeps saying if we just put this cost sharing in the authorization bill, everything is going to come up roses from now on.

I just want to make one final point and say that I really think OMB is calling the shots on this, and not the Corps of Engineers. Like good soldiers, they follow their orders.

While I understand the budget constraints—we are all cognizant of that, but it is curious that when we have a $1 trillion budget, there isn't any money for anybody. [Laughter.]

Mr. Chairman, I will just close by thanking you for allowing me to be here and to, again, welcome all the people from Arkansas who are so dedicated, diligent, and disciplined on these projects in Arkansas. These projects mean so much to our economy, our agricultural needs, our flood protection efforts, and so on.

Thank you very much, Mr. Chairman.

Senator COCHRAN. Thank you, Senator Bumpers.

[The statement follows:]

STATEMENT OF SENATOR BUMPERS

Mr. Chairman, I am pleased to have this opportunity to welcome the representatives from the various river basin associations who have come to testify before the Subcommittee on Energy and Water Development this year. Members of the Arkansas River Basin Interstate Committee appeared here yesterday, and today members of the Lower Mississippi Valley Flood Control Association and the Red River Valley Association will speak. In addition, testimony has been submitted for the record by representatives of the Ouachita River Valley Association. I want to take this opportunity to commend these groups for their outstanding record of dedicated service and farsighted efforts to enhance our precious water resources, and to express my strong support in their behalf. All of the projects under discussion are of tremendous importance to Arkansas and the entire region, and I encourage the Committee to give these requests every consideration. Some of the projects are of particular concern to me at this time, and I would like to mention them briefly.

The Red River project continues to be vitally important, and several funding requests have been made for various portions of this project. I support these and hope the Committee will provide the levels of funding requested. Among the especially critical needs are funding for continued planning for the comprehensive bank stabilization for the Red River from Shreveport, Louisiana upstream to Index, Arkansas. The Congress has funded the preconstruction planning for several years, and it is now essential that this phase be completed so that the necessary construction can be undertaken. Estimates made by the Corps of Engineers indicate that over 1000 acres of farmland are lost each year in this area as a result of bank caving. We simply cannot afford the continued loss of this valuable natural resource, and I therefore support the Red River Valley Association's request for $520,000 for this account.

In addition, continued funding for the Red River Emergency Bank Protection project and the Red River Levees and Bank Stabilization Below Denison Dam are extremely critical so that efforts may be undertaken to prevent continued erosion and bank caving on those portions of the river where highways, bridges and other public facilities, as well as farmland, are in danger of destruction. Such devastation has resulted in huge financial losses and has created insurmountable problems for the citizens of the region. It is therefore imperative that corrective steps be taken. I wholeheartedly support the requests for $15,100,000 for the Red River Emergency Bank Protection program and for full Corps capability for the Red Rivers Levees and Bank Stabilization Below Denison Dam and urge the committee to give its favorable consideration.

Mr. Chairman, last year it was brought to my attention that the Corps of Engineers might seek to close out future authority for additional construction on the McClellan-Kerr Navigation Project on the Arkansas River. I expressed my strongest oppostion to such action then, and want to do so again today. This project is a key factor in the economic growth and development of Arkansas, and its continuation is absolutely essential to our future. Several important studies remain to be undertaken on existing, potentially severe, problems, and many important aspects of the project remain to be developed before funding authority is cancelled. I therefore urge the Committee's thoughtful consideration and continued support of the McClellan-Kerr Navigation Construction Project.

Also of great importance are funding for the continuation of the Arkansas River Basin Study and for off-channel harbors. The Arkansas River Basin Study is urgently needed to resolve navigation problems, to provide a means of flood reduction, and to address the needs of municipal, industrial and agricultural water supply. Further harbor development is an important need and will serve national interests by enhancing navigation capabilities in our region and throughout the nation.

Mr. Chairman, I want to briefly discuss a situation in Little Rock that is as of yet unresolved and is of grave concern to me. The City of Little Rock has been pursuing the development of a $7 million slack water harbor for a number of years now. They received assurances from the Corps of Engineers in Little Rock as well as from the Southwestern Division of the Corps in Dallas that the project would qualify for $2 million in Section 107 funds, and that those funds were indeed available. Under those assurances, last November the citizens of Little Rock voted a tax on themselves to help meet the local share of the project. That tax, along with land contributions, brought the local share to approximately $5 million out of the total cost of $7 million. That is certainly an impressive ratio. Now, early this year we learned from the Corps in Washington that a Section 107 policy change was "evolving", a change which seriously jeopardized Little Rock's funding approval in spite of the fact that by the Corps' own estimate, 95 percent of the benefits of the project would serve the national interest through enhanced transportation. This is nothing short of a violation of trust with the people of Little Rock by the federal government, and as I indicated, it has not yet been resolved. I am following the situation closely, and urge the Committee to give serious consideration to the implications of such a policy change. The Section 107 fund is a vitally important part of our nation's water development policy and must be maintained.

Mr. Chairman, another important issue I want to speak about is the development of new cost-sharing requirements. I want to reiterate the concern expressed by a great many persons who have dedicated their careers to water resource development that a program for expanded non-federal participation should certainly not be so restrictive as to prevent development of essential water projects and allow only wealthy communities to participate. Many greatly needed flood control projects in some very poor rural parts of my state and throughout our region are in serious jeopardy if a fair and reasonable approach to cost-sharing is not reached. I encourage the Committee to address this issue in a thoughtful manner and to do whatever is necessary to ensure that all communities have an equal opportunity to participate in critical projects.

Mr. Chairman, the proper management and development of our water resources continue to be of tremendous importance for present and future generations. I am proud to have this opportunity to appear today and to give my support in behalf of these many fine projects. Thank you.

Lower Mississippi River Valley Flood Control Projects

STATEMENT OF HON. BILL EMERSON, U.S. REPRESENTATIVE FROM MISSOURI; AND PRESIDENT, LOWER MISSISSIPPI VALLEY FLOOD CONTROL ASSOCIATION

Senator Cochran. Our first panel of witnesses represents the Lower Mississippi Valley Flood Control Association. We are honored today to have Bill Emerson, a U.S. Congressman from the State of Missouri, who serves as president of that association here with us. We are going to recognize you now, Bill, and let you manage the presentation. We know we have L.M. Simmons, who is chairman of the executive committee from my State. We are glad to see him, as always; and Larry Dowdy from Cape Girardeau, MO; Newman Bolls, our friend from Greenville, MS; Curtis Patterson, we understand, is here from Baton Rouge, LA.

So you have got the first string with you today. We are glad to see you, and we recognize you for any comments you might have at this point.

Mr. Emerson. Thank you, Mr. Chairman, and members of the committee. I appreciate very much the opportunity to appear before you again today. In addition, as you indicated, Mr. Chairman, representing the 8th Congressional District of Missouri, I also have the honor to serve as President of the Lower Mississippi Valley Flood Control Association. It is in that position that I am here today to introduce the speakers and to encourage you to give high priority to their requests.

The Lower Mississippi Valley Flood Control Association has served the people in the valley continuously for over 50 years. During those years, they have appeared before this subcommittee to request appropriations for the Mississippi River and tributaries project that was authorized by the Congress in 1928.

I know I need not tell this distinguished subcommittee of the good that has been accomplished by this project, but I would like to say that it would not have been so without the help of this group. The association comes before you today recognizing the responsibilities of this subcommittee, and they endorse your efforts to provide the taxpayers' dollars in a manner that will do the most good for the Nation.

NEW COST-SHARING PROVISIONS

We will also be discussing serious problems that have appeared relentlessly to hinder or seriously delay the completion of the Mississippi River and tributaries project. I would like to digress here just a minute before presenting our witnesses today to say that I would like you to address you in your capacity as Senators and not necessarily as members of this committee. But there is some confusion around and about the differing versions of the House and the Senate authorizations bill and what the real intent of the Congress is going to be regarding local cost sharing on the MR&T project.

I want to submit that the Congress has constantly been committed to completion of the MR&T. Periodically, we discuss the philosophy about where we are coming from, and that is natural, but there is a commitment here, and I don't think there is any misunderstanding that the MR&T project is a national problem. It is also a national resource, but it has got to be treated as a national problem without local cost sharing.

One only need to read, as I have said so many times, the first paragraph of Mark Twain's "Life on the Mississippi" to understand the magnitude of the problem. Some 50 years ago the Congress did make a commitment to seeing this project through to completion, and I think we ought to stick with it.

So, I personally thank you for your time and your consideration, and it is my pleasure now to introduce to you the speakers in the order that they will appear.

Mr. T.M. Simmons, chairman of the executive committee of the Lower Mississippi Valley Flood Control Association and the president of the Yazoo-Mississippi Delta Levee Board of Clarksdale, MS; Mr. Larry Dowdy, my constituent, who is the maintenance supervisor of the Little River Drainage District, Cape Girardeau, MO; Mr. Newman Bolls, chief engineer of the Mississippi Levee Board, Greenville, MS; and Mr. Curtis Patterson, deputy chief engineer, Department of Transportation and Development, Baton Rouge, LA.

Senator COCHRAN. If I could interrupt for just a second?

I just noticed Senator David Pryor from Arkansas has come into the hearing room. I know that he has responsibilities in connection with the Committee on Finance and its efforts to write or kill—we can't tell which—a tax bill. [Laughter.]

I know he must get back there, so let me recognize him for any comments he might have so he can get back to his other duties.

Senator Pryor, welcome.

STATEMENT OF HON. DAVID PRYOR, U.S. SENATOR FROM ARKANSAS

Senator PRYOR. Mr. Chairman, I thank you very much, and I thank Mr. Emerson and the group for allowing me just to come in. I told them I would take just 60 seconds.

I want to thank this committee for the understanding and for the cooperation you have shown these delegations from our part of the country in the last several years. The projects that they have proposed—and some are nearing completion now—have meant a great deal to the economic and social well-being of our people in our part of the country.

Once again, we want to thank you, and I have a statement, Mr. Chairman, that I will submit later relative to not only these associations represented here today, but some of the individuals who have been involved more specifically in the projects that they espouse. I come and offer my full support and our full cooperation in in attaining these goals.

Thank you very much, Mr. Chairman.

STATEMENT OF HON. JOHN BREAUX, U.S. REPRESENTATIVE FROM LOUISIANA

Senator COCHRAN. We have Congressman John Breaux who has just arrived. We appreciate his coming to be with us at the hearing today. We will recognize him so he can get back to the House of Representatives to do whatever they are doing, probably working on the supplemental appropriations bill. I know it has some important items in it.

Congressman, welcome; you may proceed.

Mr. BREAUX. Thank you very much, Mr. Chairman. I appreciate the opportunity just to speak, as David did, in 60 seconds or so about the legislation that you gentlemen are considering. I know the country is in good hands when we have the two Senators from Mississippi running the whole show. [Laughter.]

BUDGET PRIORITIES

If we could take a combination of the groups in this room, I think the country would be a lot better off. I would just like to say that you have a very difficult job, obviously. We are at a time when everybody is recommending cuts. We are recommending them somewhere else, and you will hear of a great deal of that over here in the Senate, as we have in the House.

But I think that our job is to determine what the priorities are, and I think that it is a priority to finish what is still not complete before we started on new projects. I note the budget that we have received on our side and you have received over here recommends that $100 million or so of new water projects in parts of the United States that I am sure are deserving, but they make that recommendation based on cutting projects that we haven't completed.

The Red River project in Louisiana is one of those which I think is extremely important, and I just think that when we fought so hard on the Tennessee-Tombigbee Waterway that it was a project that we stuck together on until it was completed. The Red River Waterway is one that I think we should complete before we start spending money on projects that have not yet been started.

We in Louisiana and you in Mississippi suffered three hurricanes this year, with millions and millions of dollars of damages in terms of casualties, and loss of life and property. We are making a recommendation for $2.5 million more in 1987 than we spent last year.

Our damages alone are many times more than that. I think it is incredibly important that we, in looking at a limited amount of money, pay attention to projects that will eliminate losses in the future like the Mississippi levee projects, and that we spend money on projects that are underway and nearly completed before we start on new ones.

Those are two concerns that I wanted to make known to this committee on behalf of so many of the people that have traveled at their expense to be with us today. I would like to submit, Mr. Chairman, a statement later for the record.

Senator COCHRAN. Thank you very much, Congressman. We appreciate your being here, and your statement will be incorporated in the record when received. Thank you very much for your time.

Mr. BREAUX. Thank you.

STATEMENT OF T.M. SIMMONS, CHAIRMAN, EXECUTIVE COMMITTEE, LOWER MISSISSIPPI VALLEY FLOOD CONTROL ASSOCIATION; AND PRESIDENT, YAZOO-MISSISSIPPI DELTA LEVEE BOARD

Senator COCHRAN. Congressman Emerson, we will proceed to hear your panel.

Mr. EMERSON. First is Mr. Simmons, the chairman of the executive committee of the Lower Mississippi Valley Flood Control Association, and president of the Yazoo-Mississippi Delta Levee Board, Clarksdale, MS.

Senator COCHRAN. Welcome. We appreciate your patience.

Mr. SIMMONS. Thank you, Congressman.

Mr. Chairman, members of the committee, my name is T.M. Simmons, and I am chairman of the Yazoo-Mississippi Delta Levee Board. I also serve as chairman of the executive committee of the Lower Mississippi Valley Flood Control Association, and it is in that capacity that I appear before you today.

Our association has been serving the people of the lower Mississippi Valley continuously for over 50 years, and today we will again be addressing problems concerning the Mississippi River and tributaries projects. I will present several items of general interest to all our membership and then call on others of our group to testify concerning specific items. Mr. Chairman, I assure you we will be as brief as possible.

As I am sure each member of the committee is aware, our association is composed of public bodies having local responsibility for flood control, navigation, and related work in the seven States lying in whole or in part in the lower Mississippi River Valley, and this large group contains representatives from each of those States.

We want to take this occasion to express to the committee our gratitude for the uniformity and consideration you have given our requests in the past. Your understanding of the problems of the lower Mississippi River has made it possible for much progress in recent years in protecting the people and the property in the approximately 30,000 square mile area encompassed in the valley.

We in the lower Mississippi Valley are ever aware that Federal participation in flood control and related problems all began in our area. We are conscious of the fact that it was the Congress, in 1928, which furnished the leadership that gave birth to our program. We know that as our own project grew and the needs for similar programs in the rest of the Nation became evident, it was the Congress which had the vision and determination which brought it to reality. We are convinced that the progress we are making today is largely because of the like leadership of this committee. We are proud that among you are some of our very own.

IMPACT OF FLOODING

It is difficult to recall that almost 60 years ago the lower Mississippi Valley was in the midst of the worst natural disaster that had ever been visited on this Nation. The direct loss of life was appalling; the indirect loss was never fully accounted for. In terms of property damages, measured in today's dollars, direct and indirect losses ran into the billions. There are hundreds of acres of once fertile land still untillable because of the sand deposits left by crevaces in the levee.

There was no east-west commerce across the Nation south of St. Louis. Transportation within the valley was nonexistent except by water. The communications were all but nonexistent. The tent cities, the hunger, the disease, and the misery which existed everywhere from Cairo, IL, to the Gulf of Mexico should always remain etched in the history of this Nation.

Out of this came a wisely conceived engineering plan designed to prevent such an occasion again. We are grateful that in the years since there has been developed the Mississippi and tributaries project which has paid rich dividends to the Federal Government and allows us to pursue life in reasonable safety and prosperity. At this time, the project shows an overall benefit-to-cost ratio of almost 8 to 1 which, in itself, is graphic proof of the soundness of the undertaking.

Over the years, the project has prevented damages estimated at $100 billion. We believe that the project for flood control on the lower Mississippi River is one of the best investments the Federal Government, and our members as local interests, together have ever made.

NEW COST-SHARING PROVISIONS

Last year, I expressed to the committee our concern about cost sharing for Corps of Engineers water projects. Today, as this group appears before you, our concern has grown, and we are uncertain as to the possibility of completing the Mississippi River and tributaries project. We are faced with differing definitions of very important phrases in legislation that have now passed both Houses of Congress. We do not have definitive knowledge of what work will be suggested to cost sharing. We do have the executive branch delaying vital flood control contracts within days of awards. We read where the administration is directing the Corps of Engineers to apply construction cost sharing provisions to construction contracts awarded after a given date, even though we have no laws to that effect.

We have been told that only those portions of the Mississippi River tributaries project that are included in an unscheduled balance to complete category will be subjected to cost sharing, though we can find absolutely no words in the House or Senate bill that support or even mentions such a premise. Nor can we find any consistency or equality in what portions are determined to fall into this very strange category of unscheduled work.

Even with the confusion and conflict, this association, which represents the vast majority of the non-Federal entrants in the lower Mississippi Valley, is certain that the cost-sharing requirements recently approved by the U.S. Senate would seriously hamper, if not completely stop, essential flood control and harbor projects in the valley.

FUNDING REQUEST FOR 1987

With this combination of confusion and knowledge and with every consideration being given to the Nation's overall budgetary situation, we have spent considerable time and effort attempting to arrive at the most reasonable and pertinent request for fiscal year 1987 funds for the Mississippi River and tributaries project.

As a result of our discussions and deliberations, we are here today to ask your consideration of an appropriation of $324,384,000 for work we believe necessary during fiscal year 1987.

Our request, compared with the budget estimate of $298 million, is about $34 million less than what we understand is the capability of the Corps of Engineers.

You will find attached to the prepared statement a tabulation showing the details of our request.

I would like to call the committee's attention to the studies for Bushley Bayou and Larto Lake-Saline Lake in Louisiana that were funded in the fiscal year 1987 budget for a total amount of $266,000. This association, with consideration given to the attitude and financial situations of local interests, believe it would be totally unwise to spend additional funds on these two items concerning this. Some phase of study has been conducted for many years. Therefore, we are requesting that no funds be appropriated for these studies before fiscal year 1987.

We are requesting that the Corps of Engineers capabilities for the eastern Rapides and south central Avoyelles Parish, LA, and the Lower White River, Big Creek and tributaries, Arkansas studies be appropriated. I would also like to mention that we have requested additional funds to be used for construction in the St. Francis basin, the west Tennessee tributaries project, channel improvements on the Mississippi River, and, of course, the Mississippi River levees, which remain our first line of defense.

It is horrible to contemplate the loss of life and damage that would result in a time of extreme high water should failure occur in this system. As responsible local officials, we recognize your responsibility to appropriate public funds in a careful and prudent manner. As individual taxpayers, we heartily applaud your efforts to provide as economical a government as possible. We believe our actions will reflect this point of view.

We are grateful to the Appropriations Committee, both in the House and the Senate, for their recognition over the years of the necessity to provide for the Mississippi River and tributaries projects.

SEPARABLE ELEMENT—DEFINITION

Mr. Chairman, we have one other request to make: Since we have several differing definitions for separable elements of a project, because of its importance to us, we would like to request that we read out and place our definition into the record. To use a separable element is that portion of a project that is not required to make the comprehensive project function efficiently or effectively and no economic benefits are derived.

Mr. Chairman, with your permission, we will proceed with our other witnesses, and we appreciate the committee's patience.

Thank you.

Senator COCHRAN. Thank you, Mark, for your excellent statement. We have had Senator Russell Long join us while you were testifying, and we appreciate his presence. He is also a member of the Finance Committee, which is busy at work on the tax bill, and I know he has other responsibilities, as well.

Since he has come by and he is interested in the lower Mississippi Valley flood control projects, let me recognize him at this point before we go to the other witnesses for any comments or statements that he may have at this time.

Senator Long?

STATEMENT OF HON. RUSSELL B. LONG, U.S. SENATOR FROM LOUISIANA

Senator LONG. Mr. Chairman, I will just summarize my statement and ask you do print the whole thing in the record if you would, please.

Let me just say that it has been 60 years, now, since the great flood on the Mississippi, and we are racing against the clock to be ready in case we do have the type of flood we have planned against.

As you know, the so-called project flood is 3 million cubic feet per second at the point where the greatest water comes together. Now, it would be a tragedy, if having had 60 years to get ready, we still weren't ready for a flood against which we are planning. I know that the two Senators here from Mississippi, and certainly those of us from Louisiana, want to see that come what may, we will be ready for the great disaster that otherwise might befall us.

That doesn't mean we couldn't have a greater one, but at least we could be able to handle what we have been planning and working to prevent for 60 years.

I, too, share your concern about the cost-sharing legislation that was passed and hope that we can work it out and come up with our end of matching funds if matching is required.

But I want to stress the fact that there are certain things that we very definitely should be taking care of. One of them is the proposal for a 55-foot depth in the Mississippi. That has a very high benefit-cost ratio. The last time I looked, it was about 8 to 1, and that should move ahead, and I hope very much that the committee will look at that and find it desirable to do that.

In addition to that, it is very important to us that we continue and proceed with the Red River Waterway project. Most of the benefits of that navigation project would have to start at Shreveport, LA, and we need to go forward with lock and dam No. 3. I know Bennett Johnston is on your committee, and he will be stressing the need to provide adequate funds to move lock and dam No. 3, and I strongly support him in that.

I feel confident that your committee will give consideration to these matters and find a way to help us with this, as well as with the essential needs. Under Gramm-Rudman, we have to cut back on our overall program for this, as well as for a lot of other things, but it is very important to us that we do take care of first priorities first.

I don't think I need to tell you, Mr. Chairman, Senator Stennis, but you will have no more knowledgeable or sincere group of witnesses or a more reliable group of witnesses before you during the year than you have right here right now, and I urge that you give their testimony very thoughtful and careful consideration.

Senator COCHRAN. Thank you very much, Senator. We appreciate your taking time to be here and for helping the committee as you do with your knowledge and experience of these matters. We thank you for that.

Senator LONG. I am going to take care of Mississippi on the taxwriting committee, Mr. Chairman. You take care of Louisiana over here. [Laughter.]

Senator COCHRAN. Thank you.

Senator LONG. Thank you.

[The statement follows:]

STATEMENT OF SENATOR LONG

Mr. Chairman and members of the subcommittee, I am pleased to appear before you today to briefly discuss fiscal year 1987 appropriations for water development projects. There are many fine Louisianians here with us today who are prepared to testify about these projects in detail. I know the subcommittee will benefit from their knowledge.

I do want to raise several points I believe we should keep in mind as we consider funding levels for these projects for the next fiscal year. We all accept the need to reduce Federal spending, especially in view of the constraints of Gramm-Rudman-Hollings. I believe we need to carefully scrutinize cuts to determine if we will really be saving money or if refusing to spend money today will only mean that we must spend twice as much down the road.

Mr. Chairman, the rivers and waterways in Louisiana serve the Nation in two distinct ways. They are vital to our Nation's commerce—with the Mississippi River serving as the backbone of the country's river traffic. In addition, Louisiana waterways serve as the outlet through which water from 41 percent of the continental United States flows. The water resources projects undertaken in Louisiana directly affect the Nation as a whole.

The Mississippi River and tributaries project was designed to protect the people of the lower Mississippi River Valley from a flood of the intensity that will occur once every 100 years. The 1973 flood showed that much additional work needs to be completed as quickly as possible to upgrade and raise levees along the Mississippi River and in the Atchafalaya basin.

Much of the additional work required to be done on this project is in my State. The area surrounding the Mississippi River is generally densely populated or valuable, productive farmland. Additional sums spent to hasten completion on the project only lessens the amount that will be spent for disaster relief when the inevitable flood occurs.

Mr. Chairman, we know that we are racing the clock to have the project on the Mississippi completed before we have another flood that will pour 3 million cubic feet of water per second on my State. We need to move forward as quickly as possible.

We need to give serious consideration to cost-sharing requirements that are proposed for flood control projects. The Senate recently approved a water development authorization bill, the first such measure since 1976. While I voted for the bill, I have very serious concerns about its new cost-sharing proposals. I am hopeful that these concerns are addressed in conference and I would urge this committee to do all it can to ensure that needed flood control work within Louisiana moves forward as quickly as possible.

Mr. Chairman, on each occasion when I have been privileged to speak to you, I have stressed the importance of funding for the Red River Waterway project. Over the past several years, we have been successful in our quest for funding for construction of several locks and dams on the Red River.

Once again, Mr. Chairman, I would like to stress the need and importance for the continuation of construction on the Red River, especially lock and dam No. 3. Given the economic climate within my State, this project is more important than ever before. I would strongly urge the committee to continue to recommend the funds necessary to move this project along.

Another navigation project of particular importance to my State is deepening of the Mississippi River channel. We have talked about this project and its benefits of providing less expensive water transportation for years.

I am especially pleased that authorization for deepening of the Mississippi River channel to 55 feet was included in the water resources authorization measure recently enacted by the Senate. I am told that the Corps of Engineers could begin this project and complete dredging work to deepen the channel to 45 feet to New Orleans by the end of this year. I would urge the committee to provide the construction and maintenance funds necessary to make this a reality.

Mr. Chairman and members of the subcommittee, let me assure you of my appreciation for the consideration you have given water resources projects in Louisiana over the years. I know your job is never easy. You have to listen to many groups with urgent needs and determine how limited amounts of money should be distributed.

I only ask that you consider our special needs and problems in Louisiana—our vulnerability to floods and hurricanes. I also hope you will remember the contribution that Louisiana's waterways make to the commerce of our Nation. That is an investment we must maintain for the benefit of the entire country.

Finally, Mr. Chairman, I urge you to carefully consider the testimony of the individuals you are going to hear. They have many years of experience in addressing these important issues.

Thank you.

ST. FRANCIS BASIN PROJECT

STATEMENT OF LARRY D. DOWDY, MAINTENANCE SUPERVISOR, LITTLE RIVER DRAINAGE DISTRICT, MO

Senator COCHRAN. Congressman Emerson?

Mr. EMERSON. Mr. Chairman, our next witness is Larry Dowdy, the maintenance supervisor, Little River Drainage District, from Cape Girardeau, MO.

Mr. DOWDY. Mr. Chairman and members of the committee, my name is Larry Dowdy. I live in Cape Girardeau, MO, and serve as maintenance supervisor for the Little River Drainage District of southeast Missouri. My testimony will relate specifically to the fiscal year 1987 appropriations for the St. Francis basin project of the Mississippi River and tributaries project.

I am testifying today on behalf of levee and drainage districts within the St. Francis basin project in southeast Missouri and northeast Arkansas. Most of these locally tax-funded and operated drainage and levee districts are dependent upon others for their outlet into the St. Francis and Mississippi Rivers.

FUNDING REQUEST

Our request today is for $11,750,000 for construction in the St. Francis basin project, which is equal to Corps capability. Also, we request $3,719,000 in the fiscal year 1987 budget for operations and maintenance, which is $1,812,000 less than the Corps capabilities.

These amounts are supported by our district and the association and do reflect a slight increase above the fiscal year 1986 appropriations. You will also note that in the overall MR&T project budget the construction moneys exceed the planning amounts by a good amount which we consider a good and workable difference. This is some change from the past years which we have addressed before.

We want to thank this committee for their support in correcting those past imbalances of construction versus planning and also for the opportunity to appear before you today.

Thank you.

Senator COCHRAN. Thank you very much, Mr. Dowdy.

STATEMENT OF NEWMAN BOLLS, CHIEF ENGINEER, MISSISSIPPI LEVEE BOARD

Mr. EMERSON. The next speaker, Mr. Chairman, is Mr. Newman Bolls, the chief engineer of the Mississippi Levee Board from Greenville, MS.

Mr. BOLLS. Thank you, Mr. Chairman, Senator Stennis. I want to tell you what a deep pride I have in being able to testify before my two very, very dear friends and such distinguished Americans and Senators from the State of Mississippi. And I want to assure you the gratitude and the appreciation that not only we from Mississippi, but from the entire Lower Mississippi Valley, have for the leadership you have provided in very, very trying times. I assure you that it is most sincerely and most gratefully extended, and we appreciate it.

I am always a little bit wondering what I am going to say and have to have a very big statement, Senator Stennis, after you and Senator Bumpers made the statements today, and Congressman Emerson, my remarks will be somewhat anticlimatic, because you all have given such a fine presentation of these problems that we have here and the knowledge that we know you have of this so that I will make it very, very short.

I am Newman Bolls from Greenville, MS. I have prepared and filed with the committee a statement. My counterpart, Mr. Joseph Lind, Jr., in Clarksdale, has also prepared a statement.

In both of these, we do concur and agree with the statements that have been submitted by the flood control association and these other witnesses. Feeling that this is a project as a whole, not individual States, not individual basins, but as a great project for the lower Mississippi Valley, I will address my brief remarks particularly to the Yazoo basin in Mississippi.

YAZOO BASIN PROJECTS

We have the same situation there as we do in the lower valley, in that the Yazoo basin is a total basin and not individual projects. They are identified in that way for appropriations and for identifications, but it is a total project. It is a very complex undertaking. It is divided into some six or seven different segments—the upper Yazoo projects, the main stem and the tributaries, the reservoirs, the Big Sunflower project, and the Yazoo backwater project. We have made recommendations in our written statements of $24 million, which agree with the recommended budget for these vital works that must continue in this Yazoo basin.

So we will not go over them. They are detailed in our two statements as to where this money can be efficiently used and where it is needed.

YAZOO BACKWATER PUMPING PLANT

I would direct special attention to the Yazoo backwater project. We have had an opportunity to talk to both of you esteemed gentlemen and to your staff members. We feel, really, a sense of desperation and frustration that we have addressed many times and especially today. The Yazoo backwater pumping plant was authorized under the Flood Control Act of 1941, 45 years ago, just 13 years after this great MR&T project was authorized on May 15, 1928.

At that time, Congress very wisely recognized that because of these great improvements that are being made not only on the lower Mississippi River, but on the entire Mississippi River watershed, that this area in the lower end of the Yazoo basin would be subjected to additional responsibilities for storing water, and to accommodate this they authorized construction of levees, flood gates and pumping plants.

The levees and the flood gates have been constructed and are in place, but the pumping plants, the last key to all of this, is somewhat in limbo.

Congress very wisely, in 1985 and again in 1986, with great, great support from you, your committee and you gentlemen individually, appropriated funds to start construction of the pumping plant. But it was not until last December, December 7, I believe, when we notified you that these funds had been released by the Office of Management and Budget so they could begin this particular work.

The Corps of Engineers initiated a contract advertising open bids in March, but the day that this contract was supposed to have been executed, we received a stop order, and it was only, again, through the great assistance and cooperation of you gentlemen that just last week, on April 7, that we were again notified by the Corps of Engineers to execute and initiate this contract. This is for the channels; this is for the coffer dams preparatory to building the pumps.

NEW COST-SHARING REQUIREMENTS

At the time we received that notice, we were also advised that any future work this year would be subject to cost sharing. Gentlemen, when this project was first authorized in 1941, recognizing the great responsibility would be placed upon this area by these improvements upstream, this project was authorized to be constructed with no local cost sharing. It was supposed to be constructed by Federal expense, maintained, and operated.

But now at this late date, we are advised that any future work that is done on this Yazoo backwater pumping plant will be subject to cost sharing. We have fulfilled all of the requirements that have been made as local sponsor for this project, but some still feel like we are not doing enough.

We are being subjected to provisions of law that have been passed by the Senate but have not been passed by the House of Representatives, nor executed or signed into law by the President of the United States. So we are thinking that they are applying rules to us that we are not subject to.

We feel that if it could happen to this one project, it could happen to any other project in these United States. They are not conforming to law; we are convinced of that. We do not find any way where there is any legislative authority to single one project out. It appears to us that this is a line item veto, which is very, very unfair.

Gentlemen, cost sharing is not anything new to us in the lower valley. We supported this great project before the Federal Government ever came into it. We are supporting it now, and that is why the MR&T project has been so successful. We, in the lower valley, on a local level, have paid our fair share of this great project. We are continuing to pay our fair share.

So we contend that we have fulfilled these responsibilities of cost sharing before this law was ever passed. We are willing to continue to do these things, but we feel that it is beyond the financial responsibility of one small section of these United States to have to share this unreasonable and unbelievable burden.

We do not make any specific monetary requests for the 1987 budget. There are none in it. We are just relying upon your great understanding, your compassion, your mercy, if you want to do that, in knowing the destitution that this area has facing it, to see that there are funds made available for the orderly prosecution and continuation of this great project; to see that these funds are expended in the amount for which they were appropriated; and gentlemen, if you will, to see that the will of Congress is carried out in the respect that cost sharing is not applied unfairly, and destitute further some of these areas that are so, so needful of this protection.

We are most grateful for the great understanding that this committee and the Congress has always shown us in our problems down there. We rely upon you to continue to help us in any way that you can, because we do need all the help, gentlemen, that we can get. Thank you, sir.

Senator COCHRAN. Thank you very much, Mr. Bolls, for your excellent statement and for the kind words you said about those of us who are serving on the committee. We appreciate that.

[The statement follows:]

STATEMENT OF BOARD OF MISSISSIPPI LEVEE COMMISSIONERS

I am Newman Bolls, Chief Engineer, Board of Mississippi Levee Commissioners, Greenville, Mississippi, and I have the privilege of being the spokesman for the people in the Yazoo Basin in Mississippi. Mr. Joseph F. Mooney, Jr., Chief Engineer, Board of Levee Commissioners Yazoo-Mississippi Delta, Clarksdale, Mississippi, will submit a statement for filing with the record.

The Lower Mississippi Valley Flood Control Association will present a general statement in support of a recommended budget for $324,384,000 for FY87 for construction, surveys, and advanced engineering of Mississippi River and Tributaries Project. These recommendations are made after very careful consideration of the President's budget and an analysis of the Corps of Engineers' capabilities. We strongly feel that this amount of money can be most wisely expended for the orderly prosecution of the Mississippi River and Tributaries Project, being ever mindful of the current financial burdens being faced by this nation and the need to bring spending under control and develop a balanced budget.

The Mississippi River and Tributaries Project was created by the Flood Control Act of May 15, 1928 following the disastrous flood of 1927 which has been described as the greatest national peacetime disaster to ever occur in the United States. The nation recognized at the time of enactment of this Flood Control Act that flood control in the lower Mississippi Valley was of national concern and responsibility rather than one of local responsibility, and there would be no direct cost-sharing responsibilities other than those that were incorporated in this act. We hold that these principles are still valid and that these limitations and exemptions still exist and that any further cost-sharing other than what was originally authorized is eminently unfair and burdensome to this area.

I will address my remarks principally to the Yazoo Basin in Mississippi. Following is a list of projects in the Yazoo Basin with a recommended total expenditure of $24 million. We strongly recommend and endorse this amount.

YAZOO BASIN, MISSISSIPPI

Project	FY87 Budget
Upper Yazoo Projects	$ 14,200,000
Main Stem, Yazoo	2,100,000
Tributaries	
All work except Ascalmore-Tippo-Opossum	3,600,000
Tributaries	
Ascalmore-Tippo-Opossum Bayous	200,000
Big Sunflower - Steele Bayou	2,800,000
Yazoo Backwater	1,100,000
Total Yazoo Basin -	$ 24,000,000

The Yazoo Basin in Mississippi is a unique area and while being recognized as being one of the most productive agricultural areas in the entire world is still highly diversified and does not depend upon agriculture alone. This area is absolutely dependent upon adequate flood control and interior drainage for its very survival and the complex project that is designed to provide these two vital functions must operate as a whole rather than individual parts to be in any wise effective. The yearly expenditures made on this area are capital improvements and the annual return to this economy is many times the amount developed by the original benefit to cost ratio justifying these improvements. This area plays an increasing role in providing food, fibre and manufactured goods to this nation and the world and in order to fulfill this great destiny, this basin must have protection from these great natural disasters resulting from floods.

The Main Line Levees along the lower Mississippi River are the most important feature of the Mississippi River and Tributaries Project and are our first line of defense. It is, therefore, imperative that sufficient funds be provided on an annual and continuing basis to assure that the programs for strengthening these irreplaceable flood control structures progress without interruption.

The major and inseparable features of the Yazoo Basin Project are the Upper Yazoo Projects, the Main Stem, the Tributary Items, Big

Sunflower River including Steele Bayou, the Yazoo Backwater Project, and the four national flood control reservoirs at Sardis, Grenada, Enid and Arkabutla, and each of these items, though listed separately, must function in complete harmony with the others for this project to operate as designed.

The Upper Yazoo Projects are Main Stem Yazoo and Tallahatchie Channel Improvements which will effectively reduce stages on the Yazoo and Tallahatchie Rivers by as much as five feet. The recommended appropriation of $14,200,000 will be effectively used to initiate channel and levee items 3-A to complete utility relocation at East Hollis Lake and to continue the Fort Pemberton Control Structure near Greenwood. We strongly recommend this appropriation for the continuation of this work.

The requested appropriation of $2,100,000 for the Main Stem Items will be efficiently used to complete one drainage structure at Bee Lake made necessary by the revised flowline established for the Mississippi River levees resulting in inadequate levee heights on the completed Main Stem Project levees.

The Tributary Items in this project will, when completed, alleviate flooding and improve drainage for extensive farmland acreage by enlarging channels, clearing and snagging and/or constructing levees along the many tributaries that enter the Yazoo or Tallahatchie Rivers from the hill escarpment. A total of $3,800,000 is requested for this work which will include bridge locations along Pelucia Creek, complete levee item 1-A along Pelucia Creek, and for advanced engineering and design.

The Big Sunflower River which at the present time basically involves Steele Bayou and Black Bayou in the western portion of the Yazoo Mississippi Delta will, when completed, alleviate flooding and provide improved drainage on 600,000 of fertile Delta land and is especially important inasmuch as it provides the only outlet of drainage for Greenville, Mississippi with a metropolitan population of over 50,000. We strongly recommend an appropriation of $2,800,000 which will be used to initiate a channel item through Steele Bayou and to provide mitigation measures for the U. S. Fish and Wildlife Service in Swan Lake.

The Yazoo Backwater area which lies at the lower end of the Yazoo Basin and towards the lower end of the lower Mississippi River Basin has to shoulder a tremendous responsibility for both of these basins. In August 1941, Congress authorized the improvements to the Yazoo Backwater area and was farsighted enough to recognize that the improvements to flood control and drainage throughout the lower Mississippi Valley would result in increased risks of backwater flooding from the Mississippi and Yazoo Rivers and at that early date authorized the construction of levees, flood gates and pumping plants to alleviate the conditions that they knew would be imposed on this area. Congress very reasonably and intelligently visualized these problems and provided by law that these pumping plants should be constructed, maintained and operated at federal expense. However, much to our dismay and extreme consternation, and in spite of the long series of promises,this project is being jeopardized because of proposed cost-sharing which would be prohibitive for this area to bear.

Congress, in its wisdom, appropriated funds to initiate construction of the pumping plant project in both FY85 and FY86, and if it had not been for the strongest type of support from our Senators and Congressmen, these funds would not have been released to be expended in the manner for which they were approriated. In December 1985 the Office of Management and Budget finally released these funds to initiate the construction of the Yazoo Backwater Pumping Plant. In March 1986 the Vicksburg District opened bids for this work, but due to a last minute procedural review, the award of the contract was placed on hold. Finally, on April 7, 1986, authority was issued by the Assistant Secretary of the Army and the Office of Chief of Engineers to the Vicksburg District to execute this contract which was accomplished on April 8, 1986. When the directive was issued to proceed with this work, there was a further stipulation attached that even though this contract was being awarded prior to the date of May 15, 1986 which is the effective date in the Abdnor Bill, we were still advised that because of agreements made by the executive departments of our federal government the remaining portion of the Backwater Pumping Plant Project would be subject to cost-sharing.

This is utterly astounding and to us is incomprehensible. This is a project that has been authorized since 1941 when no cost-sharing was required. It has now fulfilled the conditions recently passed by the Senate of the United States in Senate Bill 1567 and still it is being singled out for cost-sharing contrary to existing law and contrary to all previous commitments and agreements. This appears to be nothing short of an item veto which we have always been convinced by constitutional law to be illegal. We do not believe that the will of Congress is being served nor the law being adhered to if these procedures are allowed to continue. We strongly contend that if it could happen to this project, it could happen to any project.

Because this is such a vital project and has been so long authorized, approved and is under construction, we most fervently recommend that the Congress of the United States will (1) provide the needed funding to prosecute this project in an orderly, efficient and expeditious manner, and (2) assure that the funds that are appropriated are spent in the manner as authorized and directed by Congress.

We in the Yazoo Basin have always prided ourselves as being patriotic and self-sacrificing citizens. This is most evident by the vast expenditures of local taxes to finance and support the critical flood control and drainage problems so greatly affecting this area. We are very conscious of the urgency to contain the destructive spiral of inflation and return this country to fiscal responsibility. We are willing to do our part. We are agreeable to well-thought-out reductions that will not jeopardize the overall economy and ask only that we be treated fairly.

We are grateful for the careful consideration you have always given our requests and wish to thank and commend you on the difficult job you have always done so well in providing funds for these most beneficial projects.

STATEMENT OF CURTIS PATTERSON, ASSISTANT CHIEF ENGINEER FOR WATER RESOURCES, LOUISIANA DEPARTMENT OF TRANSPORTATION AND DEVELOPMENT

Senator COCHRAN. Congressman?

Mr. EMERSON. Mr. Chairman, our final witness is Mr. Curtis Patterson, the deputy chief engineer, Louisiana Department of Transportation and Development.

Senator COCHRAN. Welcome, Mr. Patterson.

Mr. PATTERSON. Good afternoon. Mr. Chairman, members of the subcommittee, I am Curtis Patterson, assistant chief engineer for water resources in the Department of Transportation and Development for the State of Louisiana. My statement is presented in our capacity as the State agency designated as the representative of the State of Louisiana in the planning and orderly development of water resources and in our capacity as the engineer/advisor for the levee boards of Louisiana, all of whom are members of the Association of Levee Boards of Louisiana and of the Lower Mississippi Valley Flood Control Association.

My comments today summarize our written brief in behalf of the State of Louisiana and the Association of Levee Boards of Louisiana and are, in general, in support of the budget allowance proposed by the administration.

OLD RIVER CONTROL STRUCTURE

In discussing the proposed budget for the Mississippi River and tributaries project in Louisiana, we are certainly aware of and appreciate the fact that the Federal Government recognizes the need to maintain the integrity of the Old River complex, separating the Mississippi River from the Atachafalaya River.

This continues to be recognized by the U.S. Army Corps of Engineers as the No. 1 civil works project in the Nation. The $14,829,000 proposed in the President's budget will utilize the full capability of the Corps of Engineers in this all important project and will just about complete that project. We urge that the recommended amount be appropriated for this project in fiscal year 1987.

Downstream from, and associated with, the Old River Control Structure is the Atachafalaya Basin Floodway that must carry one-half of the project design flood below the latitudes of the Old River. This floodway has been under construction since 1928 and is not scheduled for completion until after the year 2000.

At the present time, this floodway levee system can contain only about 70 percent of its portion of the project flood. We are, therefore, requesting that Congress approve what has been submitted by the President and request that you appropriate the $35,600,000 for this purpose.

LEVEE AND CHANNEL IMPROVEMENT

Completion of the levee system throughout the floodway must be accomplished as soon as possible. For similar reasons, we are requesting that you approve the President's recommended budget for channel improvements. The project above Louisiana is about 90-percent complete, but to a much lesser extent through Louisiana.

Continued development of the upper valley over the decades is resulting in increased flows in our State in addition to the natural changes occurring in the river.

The $75,100,000 in the President's budget will provide for some of the dredging and revetment work needed to accommodate these increased flows and the effect of natural changes in the river. We are requesting that you appropriate the $75,100,000 for this purpose in fiscal year 1987.

Some levees in Louisiana are still below project grade. As you all know, levees are the main line of defense against flooding along the Mississippi River. For this reason, and for similar reasons cited above regarding the Atachafayala basin and the channel improvements, we are requesting a very modest increase in appropriations for Mississippi River levees in Louisiana. We are requesting an additional $2.5 million in order to utilize what is felt to be the full capability of the Corps of Engineers, which is $24,200,000 for fiscal year 1987 for work on this project.

EASTERN RAPIDES AND SOUTH CENTRAL AVOYELLES, LA

I move now from the Mississippi River to a project that is part of the Mississippi River and tributaries project, but is in the Red River Valley, the eastern Rapides and south central Avoyelles Parishes project. Time is long past when construction should have begun on this project. It was authorized in 1970, and its construction will reduce flooding on more than 206,000 acres.

To minimize any further delays to this project, we in Louisiana are willing to defer progress on the Busley Bayou, LA, project, which is about $150,000, and the Larto Lake-Saline Lake, LA, studies, which is about $116,000, in exchange for utilization of the full capability of the U.S. Army Corps of Engineers on the eastern Rapides and south central Avoyelles project. We are, therefore, requesting that $1,250,000 be appropriated in fiscal year 1987 for this project, which would be up from the recommended $935,000.

With permission of the committee, I would also like to submit for the record a written statement on appropriations for navigation, hurricane protection, and water resources projects in Louisiana other than in the Mississippi and the Red River basins. This statement supports, in general, the President's recommendation for these projects.

We will appreciate your kind consideration on these critical program needs and wish to thank you for allowing the State of Louisiana and the Association of Levy Boards this opportunity to discuss these projects with you today. Thank you, gentlemen.

Senator COCHRAN. Thank you, Mr. Patterson.

[The statements follow:]

STATEMENT OF OFFICE OF PUBLIC WORKS, LOUISIANA DEPARTMENT OF TRANSPORTATION AND DEVELOPMENT

MISSISSIPPI RIVER AND TRIBUTARIES

The Louisiana Department of Transportation and Development, Office of Public Works is the agency designated to represent the State of Louisiana in the planning and orderly development of water resources. This statement is presented in behalf of the State of Louisiana and contains endorsements and recommendations for Fiscal Year 1987 appropriations for Louisiana projects in the Mississippi River and Tributaries Project.

The following recommendations are in general support of the budget recommendations of the President for Fiscal Year 1987, with some minor exceptions.

MISSISSIPPI RIVER AND TRIBUTARIES
SUMMARY OF RECOMMENDED APPROPRIATIONS

LOUISIANA PROJECTS	BUDGET ALLOWANCE	LOUISIANA REQUEST
Construction		
Atchafalaya Basin	$ 35,600,000	35,600,000
Bayou Cocodrie & Tributaries	970,000	970,000
Channel Improvements	75,100,000	75,100,000
Mississippi River Levees	21,700,000	24,200,000
Old River, Louisiana	14,829,000	14,829,000
Tensas Basin, AR & LA	5,600,000	5,600,000
Boeuf & Tensas Rivers	(560,000)	(560,000)
Lake Chicot Pumping Plant	(815,000)	(815,000)
Red River Backwater Area	(2,725,000)	(2,725,000)
Tensas-Cocodrie Pumping Plant	(1,500,000)	(1,500,000)
Authorized Studies		
Atchafalaya Basin (Water & Land Resources)	170,000	170,000
Boeuf-Tensas Basin	950,000	950,000
Bushley Bayou Area	150,000	-0-
Larto Lake - Saline Lake, LA	116,000	-0-
Miss. & La. Estuarine Areas, LA & MS	780,000	780,000
Planning		
Eastern Rapides & South Central Avoyelles Parishes, La.	935,000	1,250,000
Operation and Maintenance		
Atchafalaya Basin	7,797,000	7,797,000
Bayou Cocodrie & Tributaries	115,000	115,000
Bonnet Carre Spillway	436,000	436,000
Channel Improvement	54,481,000	54,481,000
Lower Red River - South Bank Levees	62,000	62,000
Mississippi River Levees	7,395,000	7,395,000
Old River Control Structure	5,814,000	5,814,000
Red River Backwater Area	1,327,000	1,327,000
Tensas Basin, Boeuf & Tensas Rivers	1,784,000	1,784,000

NOTE:

The projects listed above are only those in Louisiana and directly affecting the State. We realize that there are others outside of Louisiana that are vitally important to the Project and in these areas, we endorse the recommendations of the Lower Mississippi Valley Flood control Association.

ATCHAFALAYA BASIN
(Budget: $35,600,000) (Request: $35,600,000)

This project is a Main Stem component of the flood control plan for the Mississippi River and Tributaries Project. The Mississippi River can safely carry only one-half of the project flood, or 1,500,000 cubic feet per second, below Old River; the other 1,500,000 cubic feet per second must be discharged through the Atchafalaya Basin. The levees which must confine this flow to the basin are now deficient because they have settled below original design grade due to consolidation of the underlying soils, and the design has been revised upward. This places the lives and welfare of 650,000 people and their property and improvements in 13 parishes in the immediate vicinity of the Atchafalaya Floodway in jeopardy each flood year. The tax assessment records indicate the value of potential flood losses to be approximately $8 billion, not including public improvements. Over the past half century, we have supported the Mississippi River and Tributaries Project and have agreed that construction of flood protection works should start upstream and progress downstream. As a result, the Mississippi River and Tributaries Project is now more than 90% complete in sites upstream from Louisiana while the levees in the Atchafalaya Basin can contain only 67% of the project flood. Work on this project has been underway since 1928 and isn't scheduled for completion until the year 2000. We request that Congress provide $35,600,000 for this project for Fiscal Year 1987.

CHANNEL IMPROVEMENTS
(Budget: $75,100,000) (Request: $75,100,000)

Channel improvements and stabilization provide protection of levees and the many improvements behind them, as well as preventing unsatisfactory alignment where the river's bank is unstable. This project is also a Main Stem component of the flood control improvement program for the Mississippi River and the benefits are the same as for the other main stem components. The Mississippi River and Tributaries Project above Louisiana is about 90 percent complete but to a much lesser extent within Louisiana. Because of the improvements upstream, increased flows are a major problem in Louisiana where the project is lagging. The funds we are requesting will provide for the dredging and revetment work necessary to accommodate these increased flows.

MISSISSIPPI RIVER LEVEES
(Budget: $21,700,000) (Request: $24,200,000)

Construction of mainline Mississippi River Levees in Louisiana also lags behind construction in the upper valley. The same reasons that apply to our request for funds for channel improvements on the Mississippi River and improvements in the Atchafalaya Basin, apply equally well to our request for additional funds for Mississippi River Levees. We are requesting that $24,200,000 be appropriated for this important project.

EASTERN RAPIDES AND SOUTH CENTRAL AVOYELLES PARISHES
(Budget: $935,000) (Request: $1,250,000)

The time has long past when construction should have begun on this project. It was authorized in 1970, and its construction would reduce flooding on more than 206,000 acres. To minimize any further delays to this project, we in Louisiana are willing to defer progress on the Bushley Bayou, Louisiana project, and the Larto Lake - Saline Lake, Louisiana project, in exchange for utilization of the full capability of the U.S. Army, Corps of Engineers, on the Eastern Rapides and South Central Avoyelles, Louisiana project. We are, therefore, requesting that $1,250,000 be appropriated in Fiscal Year 1987 for this project.

LOCAL CONTRIBUTIONS FOR FLOOD CONTROL IMPROVEMENTS

Historically, Louisiana has always done its part in cooperation with the Federal agencies concerned with flood control. The Louisiana State Board of Engineers, the forerunner of the Office of Public Works, was created in 1879 the same year as the Mississippi River Commission to coordinate the planning and construction of the required flood control facilities to protect the State. Since that time, local expenditures for flood control have exceeded

$730,000,000. This amount adjusted to 1979 dollars represents expenditures in excess of $5.3 Billion. Nearly one-half of the potential flooded area of the Lower Mississippi River Valley lies in Louisiana. Local expenditures for flood control have increased with the growth of the valley. This record not only meets, but exceeds any National Water Policy local participation requirements ever put into practice.

The State of Louisiana, its Office of Public Works, in particular, wishes to commend the Appropriations Sub-Committees on Energy and Water Development and express our appreciation for the foresight and understanding exhibited in the past of the need for authorizing adequate levels of appropriations for water resources projects which are vital to the national interest. We solicit your further consideration of the recommendations presented herein.

NAVIGATION, HURRICANE PROTECTION, AND WATER RESOURCES PROJECTS IN LOUISIANA

The Louisiana Department of Transportation and Development, Office of Public Works is the agency designated to represent the State of Louisiana for the coordinated planning and development of water resources, including flood control, navigation, drainage, water conservation and irrigation projects; therefore, this statement is presented on behalf of the State of Louisiana. We are pleased to present the endorsement and recommendations for Fiscal Year 1987 appropriations for Louisiana projects. The projects listed herein are not contained in other separate statements by the Office of Public Works on the Red River Basin or the Mississippi River and Tributaries.

In making the following recommendations regarding construction, surveys and some selected operation and maintenance items, the State of Louisiana, in general, supports the President's budget recommendations for Fiscal Year 1987. These recommendations are made, not because the projects are unworthy of higher funding levels but because we agree that a balanced budget and reductions in projected deficits are worthy objectives and are in the best interests of the nation at this time; however, we also feel that water resources projects are probably the most worthwhile and cost-effective projects in the federal budget, having to meet stringent economic justification criteria not required of other programs. We ask that this be taken into consideration in the final decision-making process to allocate the available funds.

PROJECT	BUDGET ALLOWANCE	AND	LOUISIANA REQUEST
Construction			
Grand Isle & Vicinity		$ 1,000,000	
Lake Pontchartrain & Vicinity Hurricane Protection		16,000,000	
Larose to Golden Meadow		3,500,000	
Mississippi Delta Region Project Caernarvon Structure	-0-		500,000
Mississippi River, Baton Rouge to Gulf		19,400,000	
Mississippi River, Gulf Outlet		2,000,000	
Mississippi River Ship Channel Baton Rouge to Gulf, LA		9,000,000	
New Orleans to Venice		3,000,000	
Ouachita & Black Rivers		7,880,000	
Pearl River Slidell, St. Tammany Parish, LA		759,000	

MISSISSIPPI DELTA REGION PROJECT, CAERNARVON STRUCTURE
(Budget: -0- (Request: $500,000)

The Caernarvon Freshwater Diversion project has been recommended for construction by the Corps of Engineers and the U.S. Fish and Wildlife Service. It has already been authorized by the Congress. Plans and specifications are being prepared and are virtually ready for construction. Funding is to be provided on a 2/3 federal/1/3 state matching basis. Cost estimates are in the range of $20 - $25 million. The structure is proposed to have a flow of 8,000 cu ft per sec. Freshwater from the Mississippi River will be introduced into an intermediate/brackish marsh to reduce salinities to approximate those years of high rainfall. A large area will benefit from the salinities to approximate those years of high rainfall. A large area will benefit from the salinity reduction including important oyster seed grounds east of the Mississippi River where the salinities will be maintained below 15 parts per thousand to retard the predator oyster drill. Habitat for many commercial species will also be improved.

It is requested that $500,00 for FY 1986 be provided to initiate construction on this very beneficial project.

PROJECT	BUDGET ALLOWANCE AND LOUISIANA REQUEST
Authorized Studies	
Amite River & Tributaries	$ 400,000
Bayou Lafourche & Lafourche Jump Waterway, LA	50,000
Gulf Intracoastal Waterway, LA & TX Section	625,000
Louisiana Coastal Land Loss and Marsh Creation	220,000
Louisiana Coastal Shore & Barrier Island Erosion	240,000
Louisiana Coastal Water Supply	430,000
Louisiana Coastal Area, Hurricane Protection	500,000
Construction	
Mermentau-Vermilion & Calcasieu Rivers and Bayou Teche	460,000
Ouachita River Basin, AR & LA	400,000
Pearl River Basin	590,000
Upper Bayou Teche, LA	140,000

Operation and Maintenance	Estimated Allowance and Louisiana Request
Atchafalaya River, Bayou Chene, Boeuf & Black	$11,940,000
Barataria Bay Waterway	722,000
Bayou Bodcau Reservoir	302,000
Bayou Pierre	10,000
Bayou Teche	640,000
Caddo Lake	86,000
Calcasieu River & Pass	8,395,000
Freshwater Bayou	1,425,000
Gulf Intracoastal Waterway	11,664,000
Houma Navigation Canal	1,620,000
Lake Providence Harbor	356,000
Madison Parish Port	227,000
Mermentau River	420,000

Operation and Maintenance	Estimated Allowance and Louisiana Request
Mississippi River, Baton Rouge to Gulf	39,655,000
Mississippi River - Gulf Outlet	6,140,000
Mississippi River Outlets, Venice	2,252,000
Ouachita & Black River	5,310,000
Pearl River	116,000
Red River Waterway - Mississippi River to Shreveport	2,262,000
Removal of Aquatic Growth Tangipahoa River	1,388,000
Wallace Lake	126,000

We wish to express our thanks to the Appropriations Sub-Committees on Energy and Water Development of the House and Senate for allowing us to present this brief on the needs of the state. Without reservation, practically every single project in Louisiana which has been made possible through actions of these committees has shown a return in benefits many times in excess of that contemplated by the authorizing legislation. The projects which you fund affect the economy of not only Louisiana but the nation as a whole. The Office of Public Works appreciates accomplishments of the past and solicits your consideration of the appropriations requested for Fiscal Year 1987.

CONCLUDING REMARKS

Senator COCHRAN. Congressman Emerson, does that conclude your presentation?

Mr. EMERSON. It does; thank you.

Senator COCHRAN. We really appreciate your being here and providing us with this information and with this testimony. In looking at the overall request which you are making to the committee, it is really not that much out of line with the amount of money that was actually appropriated by the Congress last year for the Mississippi River and tributaries project.

You are suggesting, as I understand it, an appropriation of a little over $320 million. We appropriated last year $315 million, or thereabouts. The budget request is right at $300 million, so maybe we can work something out that won't be too far off from what you are recommending. There is no doubt that the funds are needed. I am told that already, in the upper reaches of the valley, we have flooding that is going on right now in Iowa and Illinois and Missouri, as well; and that other problems can be expected in the lower valley later on.

I think we, as a committee, are interested in doing our part in assuring that this project moves rapidly toward completion within the constraints of the budget reduction effort and the deficit reduction effort, which we know is important, and we know this part of our Government has to participate in the deficit reduction effort.

But in spite of that, I think we can help make sure that adequate funding levels are maintained to help meet these critical needs that we have.

In looking over some of the testimony, I recognize, too, that the large dollar volume items really go to the levee system and channel improvement work and in all of the States and areas in the river valley; that where the request you make is over the budget is in a few areas, but just a few areas.

YAZOO BACKWATER PUMPING PLANT

In the Yazoo backwater region, I noticed that in the testimony that we have, there is actually no request for new money for the pumping project. I know you wouldn't object if there was some new money put in there. Let me remind you that 2 years ago, this committee did include construction funds, 2 years ago, and that that money has been appropriated; it was construction money; contracts are being awarded.

So I tend to agree with Newman Bolls and his concepts about the cost-sharing discussion that we hear from the Office of Management and Budget, and some in the administration who are suggesting that this is a project to which the new cost-sharing formulas, which have not yet been finalized, would apply.

Clearly, it is a project that was authorized a number of years ago, in 1941; construction money has been made available. In my judgment, and I hope in the judgment of the majority, that we can get funding that is available to go forward with that project without cost sharing. The question has arisen about whether or not there is a capability on the part of the Corps of Engineers for work on the Yazoo pumping plant.

Let me ask you; I suppose Newman Bolls would be the one to answer it. Do you know if the Corps has expressed a capability for the next fiscal year on the Yazoo pumping plant?

Mr. BOLLS. The Corps of Engineers were directed not to state one. We contend very strongly that the Corps of Engineers, an engineering group, and if they have a capability, engineering capability, at that time they should advance it. But by higher authority, they were directed specifically on this project not to state a capability. We know they have one; we know there are some additional funds that are left over from the appropriations that you provided in 1985 and 1986 that could be used for initiating the purchase of these pumps on a continuing contract.

But because of administrative directives, the Vicksburg District was not allowed to issue and state a capability.

Senator COCHRAN. This committee has authority to request information from the Corps, too, and we will be in touch with them.

Mr. BOLLS. Thank you, sir.

Senator COCHRAN. And we will request information as to the capability for 1987 on the Yazoo pumping plant. We do know that contracts have been awarded for some work; I am disappointed that funds are not requested in the President's budget for additional funding of this work.

NEW COST-SHARING REQUIREMENTS

Let me ask you this. Talking about cost sharing on that project alone, if cost sharing were to be required on all remaining parts of that project, what would that amount to as far as the local sponsors' share is concerned?

Mr. BOLLS. The testimony has already been made to Congress, and it is of official record. There is a statement to this effect: By an agreement with the administration and the Senate majority leadership, the local interests' sponsoring agency will have to share in cost sharing to the extent of providing a $20,200,000 cash contributions, all land and damages, and all maintenance, operation, and rehabilitation.

So we are talking perhaps in the vicinity of $30 to $35 million. Now, we feel that we have cooperated greatly. The project has been reduced 50 percent in discharge, in size. It has been reduced at least 50 percent in cost, even though the most economical, the most beneficial projects are at a much higher level.

So answering your question, they have advised us, because of these agreements that were made between the administration and the majority leadership in the Senate, that it would be a minimum of $20,200,000.

Senator COCHRAN. In the majority leadership in the Senate, I am one of them, and I didn't agree to such a thing. [Laughter.]

Mr. BOLLS. I didn't think so, sir, but that is the official communication and official records that have been filed with this committee and in the House of Representatives. It is quite interesting. We are looking at, perhaps, something on the order of $35 million.

Senator COCHRAN. Senator Stennis?

Senator STENNIS. Mr. Chairman, I never get tired of hearing this testimony and story, and the prospects of the future. I just say in passing, too, Mr. Chairman, that of all the investments that we have made, that the Government has made, over the years I have been here, I don't have any doubt that the money that has been spent on flood control, water resources, protection of the land, dams, all items like that have been the finest investment that we have made.

They have paid off day and night, big, little and all, and still, just getting that is right on it with the value and services rendered. I hope that this particular project that was actually authorized in 1928—and I remember that flood of 1927, where the big levee broke. I repeat this because everybody here hasn't heard this before, when the big levee broke over on the Mississippi River, it was 40 miles further west before you came to what we call the beginning of the hill.

It filled up, that great valley there filled up with water. You heard me recite a few of the figures awhile ago about the extent, the acres involved, the number of lives that were lost, hundreds of them, and you actually had no way of travel at that time over to Greenwood, 40 miles inland, no way of travel except motorboats, and they ran them on schedule, controlled, and you couldn't go any other time because of the danger.

When this matter finally got before the Congress, I wasn't here then. No force claimed me, but it was so impressive to the membership that was here then, they were so determined to do something worthwhile about it, I remember one thing that happened, to the sitting President then, the late Herbert Hoover, who later became President himself.

I asked him to come down to Mississippi, and he came down and lived there with us about a week. He had been just back from Europe, where he had been Director of Rehabilitation following World War I, and his services there were tremendous. That is the attention that it attracted.

There was a lot of paperwork; the bill readily passed. And work that has been carried on since then by the local people, under their leadership, by the engineers in that great professional capacity that they have, doing such a good job all the time as to impress the Congress here that has been, in the field of flood control, perhaps, no doubt in any mind, the outstanding achievement of all the United States, well, close to 100 years of effort toward improvement.

Now, for this highly important segment to be cut off and denied the benefits of that act passed in 1928, the law, is just unthinkable to me, that that discriminatory action could happen, and I don't think it is intended by those that have passed on these matters so far to discriminate against this particular project here that the emphasis has been on today.

If we can find a way to let the light really shine on it in its true condition and perspective for the future, I believe that this will be cleared up and we will go on with what has been done in the sense of fairness and right and investment and value that go on and get this project cleared out after all.

I think a lot of us do in the leadership, if I may say it, I don't mean to flatter any of you, but the leadership of you and your predecessors in this work and Newman Bolls, I have known him since we were boys together. [Laughter.]

His fine work has lasted all these years, too. Engineers, U.S. Engineers, I wouldn't leave them out. They may not please every time, but they are a skilled group. I don't know a finer group in professional life than they are, doing more for the peace years as well as the war years of our great Nation.

So I believe we ought to, if we can, we just must pull this together enough. I know you will do your part, Mr. Chairman, and more, to bring this thing together that justice may be done, and that all the area there is reasonably tended in their and may share in the benefits of this tremendous program.

Thank you very much, and I thank you.

Senator COCHRAN. Thank you very much, Senator. Excellent statement. Your leadership in this effort I appreciate, and I know the witnesses who are here today appreciate.

Thank you, Congressman, for being here with your group. We appreciate your help.

Mr. EMERSON. Thank you, right.

ADDITIONAL PREPARED STATEMENTS FOR THE RECORD

Senator COCHRAN. And all of the supporting statements that you have submitted will be made part of the record.

[The statements follow:]

STATEMENT OF THE BOARD OF LEVEE COMMISSIONERS FOR THE YAZOO-MISSISSIPPI DELTA

I am Joseph F. Mooney, Jr. of Clarksdale, Mississippi. As Chief Engineer for the Board of Levee Commissioners for the Yazoo - Mississippi Delta, I have the privilege to submit this statement on behalf of the citizens of the Yazoo Basin. Our statement supports the oral testimony of Newman Bolls, Chief Engineer for the Mississippi Levee Board. As members of the Lower Mississippi Valley Flood Control Association, we support the request for FY 1987 Appropriations in the amount of $324,384,000 to the Mississippi River and Tributaries Project.

The Yazoo Basin is one of the larger tributary areas along the Mississippi River and is completely dependent upon the flood control features of the MR&T project. The "first line of defense" in this basin as with any of the others is the mainline Mississippi River Levees. We support the request for the full capability of the Corps of Engineers to this feature in the amount of $24,200,000 even though the additional capability is available for another part of the river than ours. We do this out of our conviction that the mainline levees should be brought to standard as quickly as possible in every part of the river and that the Corps of Engineers capability to build levees should be utilized to the fullest.

The Budget provides funds in the amount of $24,000,000 for the Yazoo Basin and we fully support the request for appropriation of that amount. The money will provide funds for:

- Channel and Levee Item 3A of the UPPER YAZOO PROJECTS. The UYP improves the channel of the Yazoo - Tallahatchie - Coldwater rivers which is the major outlet for the entire basin. When complete, the work is expected to lower flood flowlines about five feet and greatly reduce the need for levees and related structures along the main stem.

* Swan Lake Channel items of the BIG SUNFLOWER - STEELE BAYOU project. This project provides an adequate outlet for the runoff from the western part of the Delta and the City of Greenville.
* Work on Muddy Bayou which is part of the YAZOO BACKWATER PROJECT. The YBP protects nearly 1,000,000 acres of land in the south Delta from overflows backing out of the Yazoo and Mississippi Rivers.
* Control Structures and levees along the MAIN STEM ITEM which is the collection of such items required along the banks of the Yazoo River and near the City of Greenwood.
* A bridge and a levee along Pelucia Creek which is part of the TRIBUTARIES, a project to improve the carrying capacities of streams from the HILLSIDE RESERVOIRS and from the eastern portion of the Delta.

From the earliest days of settlement in the Delta, the local people have invested heavily of their money and their lives into the development of an adequate flood control system with only limited success. The problems caused by the runoff from 42 % of the continental United States simply overwhelmed the local resources. Finally, at the direction of Congress and through the coordinated planning of the U. S. Army Corps of Engineers, great progress is now being made.

The benefit of this work you are funding is very impressive both in terms of money and in terms of quality of life. The remaining project is estimated to have better than a 3:1 benefit to cost ratio. More importantly, many of our people are able to hang in there, tenaciously, during this period of such great stress in the agricultural industry. In many cases, the relief you have given them from flooding damages is just the difference between "making or breaking".

For the above reasons, we sincerely thank you for the support of the Congress over the years making it possible that we be spared the ravages of the floods originating in the lands far upstream of us. For the same reasons, we urge you to do everything possible not to allow the MR&T project to be destroyed. The local people have worked so hard, at such great sacrifice, and with such great patience to bring our joint project to fruition. To change the rules, the agreement, the commitment at this late date would simply be too cruel. Yet, with ***cost sharing*** as presently proposed for the MR&T project, the local resources would again be overwhelmed by the sheer magnitude of the problem, and we would be back at square one - at the mercy of nature and the elements.

We really appreciate all the Congress has done to deal with this problem and respectfully request that you defend the MR&T project from any destructive changes.

PONTCHARTRAIN LEVEE DISTRICT BOARD OF LEVEE COMMISSIONERS

THE LEVEE DISTRICT

The Pontchartrain Levee District extends downstream from the city of Baton Rouge a distance of 115 river miles, includes the east (left descending) bank of the Mississippi River, and is comprised of portions of East Baton Rouge, Iberville, Ascension, St. James, St. John, and St. Charles Parishes. The east bank levee is continuous throughout the Levee District, including the Bonnet Carre Floodway.

Extensive development of major industries has taken place in the Pontchartrain Levee District. Along with industrial growth, our Levee District has witnessed a dramatic companion increase in residential and urban expansions. Substantial portions of prime agricultural lands have now been converted to other uses. Two nationally ranked deep-water ports are located in the Pontchartrain Levee District, the Baton Rouge Port and South Louisiana Port.

The District contains large diameter pipeline systems which deliver goods to nationwide distribution points. Interstate Highways 10 and 55 and a number of major U.S. Highways traverse the Levee District, along with major railroads. The Mississippi River deep water channel for ocean going vessels and the proposed 55-foot channel are a part of the Levee District Area.

All these features and many other improvements are protected by the Mississippi River levee and related features. Only through continuous, effective flood control improvements and maintenance can this area and the lower river valley meet requirements to serve national needs for industry, employment, deep-water navigation, highway and rail transportation, major pipe lines, residential, agriculture and related activities.

RECOMMENDATIONS

Mississippi River Levees (Amount Recommended: $24,200,000)

Construction of the Mississippi River levee in the Pontchartrain Levee District and elsewhere must be completed. The basic well being of the nation is dependent on its future flood control success in terms of economy, agriculture, industry, transportation, jobs, recreation, environment and many vast improvements throughout the river valley.

The Pontchartrain Levee District has reaches of levees which are below grade, sub-standard, or odd sections and otherwise do not meet Corps of Engineers design criteria. Serious seepage problems always accompany each high water. Some distances from levee toe to top bank are less than thirty-five feet. Wavewash damages are a year round threat, but, become more acute with high river stages when the unprotected riverside slope of the levee is exposed to rapid wavewash erosion.

One may ask why is it necessary to spend more money on levees. The best answer is the levee crevasse which occurred August 23, 1983, in this Levee District, when the River bank revetment failed and a seven hundred foot length of levee crevassed, settled and disappeared. Emergency efforts were undertaken immediately to construct a levee setback. A number of families, their residences, a State Highway, power lines, telephone lines, gas lines, water main pipe lines, industrial improvements, and local improvements were displaced. The Pontchartrain Levee District and State was most fortunate that this failure happened after the 1983 high water peak, the third highest of record. There are many other reaches and locations of levee which have failure potentials, and they can be prevented only by the Congress appropriating funds needed to make timely improvements to the levees and make them safe.

One levee construction item in the Pontchartrain Levee District not in the proposed budget is the St. Gabriel Levee Enlargement and Slope Pavement. High river stages in 1973 and 1983 would have overtopped the old levee except for the hastily built narrow crown (potato ridge) embankment constructed in 1973 and remaining in place today. The levee must now be replaced with a permanent system. The estimated cost is $1,700,000 and is a part of the recommended amount over the budget. The Board of Commissioners, Pontchartrain Levee District, urges Congress to provide a total of $24,200,000 for this important work in FY 1987. The Budget included $21,700,000

Looking ahead to FY 1988, the Pontchartrain Levee District recommends inclusion of approximately $3,000,000 in the next year's budget for two reaches of levee which are in critical need of raising and repairing. In 1983 one location the levee was overtopped by wave surges during peak river stages, and the other location was damaged severely in 1973, and remains far beyond the capability of Levee District equipment, staff, and finances. Favorable consideration is requested.

Channel Improvement (Amount Recommended: $93,000,000)

Main line levees must be protected from caving banks throughout the lower river reaches where extremely narrow battures are the last line of defense against crevasses and failures. There simply is no place left for levee setbacks in the Pontchartrain Levee District. The only proven remedy to stabilize these continually eroding banks is construction of revetment.

Funding levels of the past few years for Mississippi River Channel Improvement should not be allowed to decline, and this level of spending is historically a cutback. It must be realized that while revetment and channel improvements are well advanced for the Mississippi River above Old River, (referred to as the upper basin) those same needs are only about half complete in the lower portion below Old River. The volume of work to be done annually has not declined. The Pontchartrain Levee District urges Congress to appropriate $93,000,000 for FY 1987, whereas the budget allows only $75,100,000. The full capability is needed and justified.

Lake Pontchartrain & Vicinity, Hurricane Protection Project.

A seldom remembered feature of Hurricane Protection in the Pontchartrain Levee District area is that portion which extends above the New Orleans City area and around Lake Pontchartrain. That segment designated for St. Charles and St. John Parishes is in the Pontchartrain Levee District and remains a great concern to the Board of Commissioners. In the years 1968 to 1970 this Levee District purchased necessary rights-of-way for construction of the Hurricane Protection Levee along the Lakefront shoreline as designated by the Corps of Engineers. Subsequently, a number of reviews, re-studies and changes have been made for the Project while no construction has been undertaken in the Pontchartrain Levee District.

As hurricane protection is advanced in the New Orleans area, and not further around Lake Pontchartrain, then the end result is that hurricane higher stages will be forced into those unprotected, adjacent areas, namely St. Charles and St. John Parishes, resulting in higher flooding, and extremely longer periods of time. One area should not be protected at the expense of another. The entire project should be advanced in a manner to provide benefits to the total area affected.

The Board of Commissioners, Pontchartrain Levee District, recommends to Congress that adequate funding be provided for construction in the New Orleans area and St. Charles and St. John Parishes, on a coordinated basis.

COST SHARING

The cost sharing process proposed for flood control projects, as contained in the Abdnor bill, imposes financial requirements on most Levee Districts of the Lower Mississippi Valley that just cannot be met and could possibly stop the coordinated flood control program that we have been striving for over the past fifty same odd years or longer. In 1928 the States joined together as a Nation to accomplish that which could not be done by any State alone, hence the authorization of the MR&T Project. This approach has been re-affirmed by Congress and the Nation many times since. It does not make sense now, or in the past or future, to step backward into an era of no national interest being served or advanced. If project implementation is dependent on cash up front, then the few States (or Levee Districts) with financial sources will benefit while all others will go without coordinated improvements and they will be further adversely affected by not being on the same protected levels. The wealthy will prosper and the poor will suffer increasingly. The Pontchartrain Levee District, through its Board of Commissioners, pleads with Congress to exempt the MR&T Project from cost sharing.

The Board of Commissioners, Pontchartrain Levee District, compliments the Subcommittees on Energy and Water Development for the keen understanding of the real needs of the MR&T Flood Control Project and the efficient, responsive actions taken to appropriate funds for its many complex requirements. We endorse recommendations presented by the Association of Levee Boards of Louisiana, Louisiana Department of Transportation & Development, Lower Mississippi Valley Flood Control Association, Red River Valley Association and Ouachita River Valley Association.

LAFOURCHE BASIN LEVEE DISTRICT BOARD OF COMMISSIONERS

THE LEVEE DISTRICT

The Lafourche Basin Levee District extends downstream from the city of Donaldsonville, Louisiana a distance of 62 river miles, includes the west (right descending) bank of the Mississippi River, and is compressed of portions of Ascension, St. James, St. John, and St. Charles Parishes. The west bank levee is continuous throughout the Levee District.

Substantial portions of prime agricultural lands in the Lafourche Basin Levee District has been converted into major industrial developments and more are expected to develop in the future. Two of these which are known nationally are the LP&L Nuclear Power Plant located in Taft, Louisiana and the Federal Energy Department located in St. James Parish.

The District has many other industrial plants such as C F Industries, Triad Chemicals, Agrico Industries, Becker Industries, Hooker Industries, Union Carbide, Monsanto and US Farmers Export Grain Elevator. All of these industries contain large and small diameter pipelines and conveyer belts which deliver goods to nation wide distribution points.

All of these elements and other improvements including residential and urban expansions are all protected by the Mississippi River Levee. The only way this area and the lower river valley can meet pertinent requirements to severe national needs for industry, major pipelines, agriculture, employment, deep-water navigation, residential, and related activities is through continuous, effective flood control improvements and sincere maintenance programs.

RECOMMENDATIONS

Mississippi River Levees - (Amount Recommended: $ 4,200,000)

Construction of the Mississippi River Levee in the Lafourche Basin Levee District and neighboring districts must be completed. The success of future flood control in terms of economy, agriculture, industry, transportation, jobs, residential, and recreation are of utmost importance to us and we are dependent of it's well being.

The Lafourche Levee District is still faced with enormous amounts of seepage and slope erosion problems which arise yearly from high water occurrences. Wave wash in areas where there is little or no tree screens have been the most serious for us to maintain and protect. We still have certain segments of levees which are irregular or substandard and do not meet the design criteria of the Corps of Engineers. This district has a relatively long list of levee sections that has extremely narrow banks or battures which could cause possible levee failures and they are of great concern to us. Extreme precautionary care has to be taken to these areas to ensure protection of the levees. There are many other deficiencies in the levees and battures that have failure potentials and they can only be prevented by the Congress appropriating funds needed to make timely improvements to the levees and make them safe.

CHANNEL IMPROVEMENT - (Amount Recommended: $ 39,500,000)

Main line levees must be protected from caving banks throughout the lower river reaches where extremely narrow battures are the last line of defense against crevasses and failures. There simply is no place left for levee setbacks in the Lafourche Basin Levee District. The only proven remedy to stabilize these continually eroding banks is construction of revetment.

Funding levels of the past few years for Mississippi River Channel Improvement should not be allowed to decline, and this level of spending is historically a cutback. It must be realized that while revetment and channel improvements are well advanced for the Mississippi River above Old River, (referred to as the upper basin) those same needs are only about half complete in the lower portion below Old River. The volume of work to be done annually has not declined. The Lafourche Basin Levee District urges Congress to appropriate $89,500,000 for FY 1987, whereas the budget allows only $75,100,000. The full capability is needed and justified.

COST SHARING

The cost sharing process proposed for flood control projects, as contained in the Abdnor bill, imposes financial requirements on most Levee Districts of the Lower Mississippi Valley that just cannot be met and could possibly stop the coordinated flood control program that we have been striving for over the past fifty same odd years or longer. In 1928 the States joined together as a Nation to accomplish that which could not be done by any State alone, hence the authorization of the MR&T Project. This approach has been re-affirmed by Congress and the Nation many times since. It does not make sense now, or in the past or future, to step backward into an era of no national interest being served or advanced. If project implementation is dependent on cash up front, then the few States (or Levee Districts) with financial sources will benefit while all others will go without coordinated improvements and they will be further adversely affected by not being on the same protected levels. The wealthy will prosper and the poor will suffer increasingly. The Lafourche Basin Levee District, through its Board of Commissioners, pleads with Congress to exempt the MR&T Project from cost sharing.

CONCLUSION

The Board of Commissioners, Lafourche Basin Levee District, compliments the Subcommittees on Energy and Water Development for the keen understanding of the real needs of the MR&T Flood Control Project and the efficient, responsive actions taken to appropriate funds for its many complex requirements. We endorse recommendations presented by the Association of Levee Boards of Louisiana, Louisiana Department of Transportation & Development, Lower Mississippi Valley Flood Control Association, Red River Valley Association and Ouachita River Valley Association.

STATEMENT OF PLAQUEMINES PARISH COMMISSION COUNCIL

In the late 1950's the U.S. Congress authorized the study of the lower Mississippi River delta and estuarine system. The study established the fact that freshwater diversions were the only economical and feasible alternatives to replenishing and rejuvenating estuarine areas in the Mississippi delta. In 1968 Congress authorized the Caernarvon Freshwater Diversion Project (House Document #308). The U.S. Army Corps' of Engineers has completed the indepth reports, studies and engineering specifications which would allow this project to be bid for construction in September, 1986. However, as of this date the project has not received funding.

Plaquemines Parish is requesting your support for funding the construction of this project. The seafood industry and those people who make their livelihood from that industry are being negatively impacted from the decline of species population and from import competition. We have an opportunity to rejuvenate and replenish the needed nutrient levels to this estuarine system which will increase the production of many species of seafood, thereby sustaining and developing these needed renewable resources for Plaquemines Parish, the State of Louisiana and the nation. It should be noted that fishermen from Mississippi, Alabama, Florida, and Texas also commercially harvest seafood in this estuarine system.

Plaquemines Parish has exhibited its confidence in the need for freshwater diversion programs and we are willing now as in the past to contribute our fair share. Plaquemines Parish and the State of Louisiana joined together early in the 1960's and worked through the 1970's to construct, without the use of Federal funding, two freshwater diversions which were identified as a direct result of the aforemention congressional study. Plaquemines Parish has spent $183 thousand dollars for a management plan that describes in detail how the diversion waters can best impact the estuarine area. In addition, Plaquemines Parish Environmental Services Laboratory has been certified by the State of Louisiana for the examination and evaluation of shellfish and seawater and has committed manpower and equipment in doing the research and monitoring in preparation for this project. The State of Louisiana has established a 4½ million dollar trust fund to meet the local contributions necessary for the project to move forward and we are now asking congressional assistance to establish the needed Federal appropriations to allow for construction. [1]On the Federal level, the U.S. Army Corps' of Engineers has spent 1.3 million dollars on design and study in preparation for construction of the proposed project. The need to create diversions is a result of the Federal Government's intent to enhance commerce by controlling the Mississippi River. Since Mississippi River control structures have been established, the needs of the people of Southern Louisiana to have river diversions has increased. Once the estuarine system reaches its maturity, without additional nourishment it will begin to deteriorate and the industry and people who make their livelihood from these areas will suffer. As a result of needed levees being constructed in our area, new sediments and nutrients cannot be introduced into the system and the result is a decline in the effectiveness of the system to produce renewable resources.

The generations of families who have depended on this estuarine system are independent and proud people who take great pleasure in being capable of living off the land and not living off the welfare state. We find it difficult to ask for federal funds when we have asked for little or nothing in the past, but the quantity of monies needed to fund this extremely important project is totally beyond our scope of additional financial participation. Our research has shown that it is probable that seven to ten thousand people will lose income as a direct result of the estuarine system's inability to support the fishing industry. This may result in those people becoming unemployed and receiving welfare.

GENERAL STATISTICS

Louisiana is the largest producer of seafood in the continental United States with its closest competitor being Alaska who produces less than ½ of what Louisiana produces annually. Louisiana has three of the top four commercial fishery ports in the nation. Louisiana is mainly a producer of menhaden, crabs, shrimp, oysters, and some finfish. Louisiana produced 51%[2] of the nation's total oyster production and was[2] the largest producer of shrimp. The Gulf Coast states produced [2]2.2 billion pounds of seafood in 1984.

[2]Foreign import fisheries trade has reached an all time high of $3.7 billion dollars. The nationwide trend today is for families to consume more seafood. This has resulted in an increased demand for that product.

The U.S. economy has indicated an increase in comsumption of fisheries produced and we have had to buy foreign products to fill that demand. With the decrease of production in our estuaries, only a greater imbalance of trade can result.

DIVERSIONS

The purpose of a diversion is to introduce new sediment, nutrients and water into the head of an estuarine system. This allows the entire system to benefit and become more prolific. By establishing levees to control the Mississippi River for navigation, we have eliminated this natural process of enhancing our marshlands. By building diversions that allow water to penetrate the levee system we can nurture our estuarine system back to a more productive environment. Without diversions the biological food chain that is needed to proliferate the seafood industry will continue to decline. With this knowledge you can see how this project must be labeled as a major step toward enhancing our future seafood industry. The Caernarvon Freshwater Diversion will be located twenty miles below New Orleans on the left descending bank of the Mississippi River. It consists of five 15' X 15' boxed culverts which will penetrate the Mississippi River levee system, a railroad crossing, and a proposed 4-lane highway before discharging nutrient laden river waters into the head of the estuarine area. There will be control gates at the river side of each boxed culvert which will allow the flow of the Mississippi River water to be regulated in accordance with the needs of the estuarine system at that given time.

The life expectancy of the project is planned for 50 years and its economical rate will be generated by the increased seafood propagation and should produce a 15% rate of return. Therefore, the project's estimated rate of cost recovery will be 100% within the first seven years. 1

The total cost of this project has been estimated by the Army Corps' of Engineers to be $23,000,000.00. The following is a breakdown of that cost:

1.	**LANDS & DAMAGES**	**$ 112,000.00**
2.	**RELOCATIONS (Railroad, Hwy. 39, Public Utilities & Telephone Lines)**	**888,000.00**
3.	**FISH & WILDLIFE FACILITIES (Caernarvon Freshwater Diversion)**	**17,400,000.00**
4.	**ENGINEERING & DESIGN (Drafting, Plans & Specifications Pre- & Post Construction Monitoring)**	**3,650,000.00**
5.	**SUPERVISION & ADMINISTRATION**	**950,000.00**
	TOTAL	**$23,000,000.00**

In conclusion, if the Caernarvon estuarine system is not supplied with freshwater and sediment, a great number of the existing species in this estuarine system will decrease in number to a point where perpetuation of individual species will end.

The U.S. will rely more heavily on foreign products, unemployment in our area will continue to rise, prices will increase, and a part of our heritage will be lost. This project is an economic development project; one which has the potential for decreasing the necessity for foreign trade of seafood and addressing future unemployment.

We wholeheartedly implore you to find it within your power to support the funding of this project. It is important to understand the fact that it is cheaper and easier to repair and rejuvenate a system in the early stages of deterioration rather than wait until it becomes totally unproductive to look into repairing it. Once the barn has been burned there is little need for repair.

FOOTNOTES

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[1] Anderson, Carl. U.S. Army Corps of Engineers, New Orleans District Office, Project Coordinator.

[2] "Fisheries of the United States, 1984". U.S. Department of Commerce, National Atmospheric Administration. Washington, D.C. April, 1985. Page v, vii, ix, x, xii, xiv, 4.

STATEMENT OF THE WARREN COUNTY (MS) PORT COMMISSION

In August, 1976, the U.S. Army Corps of Engineers Vicksburg District completed the feasibility report on the Harbor expansion at the Port of Vicksburg.

The purpose of the study was to determine whether any modification of the harbor project at Vicksburg, Mississippi, was advisable to serve navigation or other water resource purposes. The study was in response to the following resolution sponsored by Senator John Stennis and adopted by the Committee on Public Works of the United States Senate on the 11th day of September, 1969.

> "Resolved by the Committee on Public Works of the United States Senate, that the Chief of Engineers, United States Army, be and is hereby requested to review the report on the Mississippi River and Tributaries, Vicksburg-Yazoo Area, Mississippi, published as House Document Numbered 85, Eighty-third Congress, and other pertinent reports, with a view to determining whether any modification of the project is advisable at this time to serve navigation or other water resource purposes."

The study was completed that includes a slack-water harbor north of the existing Warren County Industrial Center, enlargement of the Yazoo River Diversion Canal from the mouth upstream to the harbor to ensure access to the harbor, construct a lock and dam on the Yazoo River, construct a ring levee to protect approximately 9,000 acres of land and to relieve traffic congestion along the Vicksburg city front, and enlargement of the approach navigation channel into the existing harbor to ensure safe access into the Industrial Center. The material from the harbor channel and adjacent Yazoo River Diversion Canal will be placed adjacent to the harbor channel to provide an area suitable for industrial development. The harbor improvements will be constructed in stages to correspond with the projected needs of the area. The elements of the selected plan are shown on Plate E-1.

The project has not received funding, but in 1977, the Warren County Port Commission proceeded to implement the plan by constructing a 65 acre industrial fill and channel north of the existing Warren County Industrial Center (Please see attached map) at a cost of $3,000,000.

Two industries (including the 7th largest corporation in the world) has established industrial operations on the 65 acres of property.

The Corps of Engineers have continued to maintain the existing channel along Vicksburg's water front, Yazoo Diversion Channel and into the 245 acre slack water port originally constructed in 1960, but does no dredging in the channel adjacent to the 65 acre industrial fill north of the existing Warren County Industrial Center.

The cost of dredging the mouth of the new channel has been estimated at $6,300 under the 1985 Corps of Engineers contract with a dredging company.

The Warren County Port Commission was quoted $24,600 by the contractor that was performing the work for the Corps of Engineers.

The Warren County Port Commission respectfully requests that the mouth of the channel of the 65 acre industrial fill north of the existing Warren County Industrial Center be included as part of the maintenance agreement of the Corps of Engineers with the Warren County Port Commission.

TOMBIGBEE RIVER AND TRIBUTARIES FLOOD CONTROL PROJECT

STATEMENT OF ROBERT S. WEIR, EXECUTIVE DIRECTOR, TOMBIGBEE RIVER VALLEY WATER MANAGEMENT DISTRICT

Senator COCHRAN. Our next panel of witnesses may be a panel of one. We have listed next Robert Weir, who is executive director of the Tombigbee Water Management District.

Mr. Weir, we appreciate your patience, and we are glad to hear from you as the representative of the Tombigbee River Valley Water Management District concerning the Tennessee-Tombigbee Waterway project. We have a statement which you prepared and your comments. We thank you for that.

We would encourage you to make summary comments and highlight it for us, if you would. We are running a little behind. That is not your fault. We are not even going to give you short shrift. We are going to carefully consider your testimony. You may proceed.

Mr. WEIR. Thank you, Mr. Chairman, Senator Stennis, other members of this subcommittee.

I am Robert Weir. I represent the Tombigbee River Valley Water Management District. The district was created for the purpose of developing and conserving the human and natural resources of our region of Mississippi. We represent 12 member counties located in northwest

Mississippi consisting of approximately 350,000 people. However, our projects may benefit a larger area and a considerably larger population.

Our agency has proudly served as the official sponsor to the U.S. Corps of Engineers in the construction of the Tenn-Tom Waterway. We consider this waterway a masterpiece of technology that was performed by the Corps. We continue to salute the Corps for a job well done.

Our agency has also proudly served in the sponsorship of a great number of flood control projects and other water-related projects that have resulted in a considerable benefit to our area of the country.

Our goals are to continue addressing and resolving the needs of the people of our area. These benefits can become reality by assisting our farmers, landowners, and timber farmers in controlling damages to their lands through some type of water management program.

LUXAPALILA FLOOD CONTROL PROJECT

I would like to point out one crucial project that we feel that is needed at this time, and that is called the Luxapalila, the tributary of the Tombigbee River. The Luxapalila originates in Alabama and flows through the metropolitan area of Columbus, MS, before emptying into the Tombigbee River. During flood season, many homes and businesses experience flooding which result in considerable damage to property. The risk of flooding creates additional expenses for all involved, such as a loss of business and high premium for insurance coverage, loss of productivity, and reduction of value to the land.

The Corps and our agency have invested time, effort, and expense in studying this problem. All studies have revealed that this project is very much a feasible one.

I hereby request that adequate appropriations be made for the continued study of this Luxapalila project.

We remain very optimistic about our economic and industrial development of the Tenn-Tom Waterway. Northwest Mississippi's greatest export potential is in the agricultural production area. One of the leading commodities is forest products such as chips, logs, timber and finished wood products, grain products, soybeans, and wheat.

We do feel like that a comprehensive water resource plan must be implemented to give relief to flood and drainage problems and soil erosion, to agriculture and timber lands in the area. These problems must be addressed through snagging and channelization of its tributaries and watershed projects developed to curb problems created by rivers and creeks in the area that deprive our farmers of a considerable amount of farmland that could be utilized and benefit people throughout our Nation and world.

We further feel that these necessary projects can only be accomplished with the continuing assistance of the U.S. Army Corps of Engineers and the U.S. Soil Conservation Service through the U.S. Department of Agriculture, along with numerous State and Federal agencies. We recommend that funding for the full capabilities of these agencies be approved in order that we may continue addressing these needs.

Such a request is made in reference to the following authority: The Committee on Public Works and Transportation of the U.S. House of Representatives adopted a resolution on September 19, 1984, that authorized and directed the Secretary of Agriculture and the Secretary of the Army to make joint investigations and surveys of the Tombigbee River basin, Mississippi and Alabama, and the Tuscumbia River basin in Mississippi. The investigations and surveys results in the interest of flood prevention and control, soil erosion and siltation control, water quality control, water supply, recreation, fish and wildlife, environmental quality, watershed protection, and allied purposes are to be in a report that will be prepared and submitted to the committee in compliance with the provisions of Public Law 87–639.

Today, we have heard others allude to the fact of cost sharing. I, too, would like to make a comment for the record on cost sharing. I feel that it could place an additional burden upon our people of our area and possibly would prevent some projects from becoming reality. We feel like the cost-sharing policy has already been enacted for many, many years.

Whenever a project has been performed or conducted by the Corps of Engineers, it was later turned over to our agency, which took care of the operation and maintenance, and for many projects, we also took care of the easements for that and the right of ways for that. We felt like to add to that cost sharing would place a burden on not only this agency, but on the people of that part of the country. I would hope that we would give strong consideration toward that.

The Tombigbee River Water Management District remains dedicated in the promotion of the Tennessee-Tombigbee Waterway to its greatest potential. Your support, along with your foresight, has played a vital role toward not only the future of our area, but for mid-America. This, we are grateful for. I appreciate your allowing me to come here to take a few minutes.

Senator COCHRAN. Thank you very much, Mr. Weir, for your comments and your statement. I certainly support the goal that the district has of developing fully the potential for economic development, growth, and expansion in the Tennessee-Tombigbee Waterway region. I am confident the waterway is going to help us realize a tremendous amount of economic benefit. Already we are seeing located along the waterway new industries and economic activities that are creating new jobs and adding to the standard of living and the quality of life of the people of that area.

Immediately, the new plant comes to mind that is being constructed at Amory. You mentioned the forest products industry. This is a wood chip operation exporting forest products from that area down through the gulf to foreign markets. We are going to find a tremendous amount of economic benefit as a result of that one new business for our State.

I know your association has been involved in helping to make that become a reality. There are other projects that are being planned. We congratulate you for the work you are doing and the leadership that you are providing as executive director of the district.

Mr. WEIR. Thank you, sir.

Senator COCHRAN. Is there a specific request being made of the committee for funding of any particular project? You mentioned the river that is a tributary of the Tennessee-Tombigbee that goes through downtown Columbus, MS. I am familiar with that generally, Luxapalila Creek.

Mr. WEIR. Mr. Chairman, we support the full capability of the U.S. Corps of Engineers for fiscal year 1987, and in addition to that, we would like to have funding continue on the studying of the Luxapalila project.

At this time, the project has been submitted to district offices for environmental study and also for their review and approval. In granting that approval, we are hoping that within the next year or two that the project could be implemented.

Senator COCHRAN. We appreciate that very much, and we will look into it and carefully review your request and see if we can't help in some way.

Mr. WEIR. Thank you, sir.

Senator COCHRAN. Senator Stennis?

Senator STENNIS. I have nothing further.

Senator COCHRAN. Thank you very much.

RED RIVER BASIN PROJECTS

STATEMENT OF DON DUGGAN, CHAIRMAN OF THE BOARD, RED RIVER VALLEY ASSOCIATION

Senator COCHRAN. Our next witness is Don Duggan, who is chairman of the board of directors of the Red River Valley Association. We know you have others with you—I recognize immediately Joe Waggonner, a former colleague from the House of Representatives. You brought one of the strongest gentlemen around to testify with you today when you brought him.

Mr. DUGGAN. That was our purpose in bringing him. [Laughter.]

Senator COCHRAN. We welcome Congressman Waggonner and the others who are here. Why don't you identify the others who are with you, and we will have you call on them to present the testimony in support of the Red River basin projects.

INTRODUCTION OF SUPPORTING WITNESSES

Mr. DUGGAN. Thank you, sir. Mr. Chairman and Senator Stennis, members of the staff, we are grateful for the opportunity to appear before you here today. We always feel at home when we appear before you. You are like kinfolk to us.

Before we get into the testimony, I would like to introduce all who have come in support of us from the States of Arkansas, Louisiana, Texas, and Mississippi, beginning with General Ed Harris, our president. Would all of you stand who are in support of us?

[A large group standing.]

[Applause.]

Senator COCHRAN. Welcome; we welcome you to the committee. We have a list of all of those who are here, and we will make that list a part of the record at this point, along with your full statement.

[The statement and list follow:]

STATEMENT OF THE RED RIVER VALLEY ASSOCIATION

Mr. Chairman and Members of the Sub-Committee:

I am Don Duggan, Chairman of the Board of the Red River Valley Association. Our association is 61 years old and represents citizens from all walks of life in the four state area comprising Arkansas, Louisiana, Oklahoma and Texas who are vitally concerned with the continued development of the water and land resources of the Red River Basin.

During our presentation colleagues from each of the four states will address you to testify on specific needs within their own state, and I will open with a few general remarks.

We continue to lose thousand of acres of some of the finest farm land in the nation by the Red River's uncontrolled flow, causing massive bank caving along its entire length. These cave-ins not only result in the loss of valuable agricultural land, but constantly pose threats to levees, bridges, highways, railroads, utilities and pipe lines. To end this destruction, it is urgent that Congress provide funds necessary for emergency bank protection measures.

Clean water, for residential, agricultural and industrial use, continues to be a major concern of our association. We continue to permit hundreds of tons of salt and other minerals to be dumped into it everyday, polluting and making its water too saline for widespread use. Many communities and cities along the Red are short of potable water sources and are resorting to costly plans to insure their future water needs. An example being my home town of Shreveport of some 220,000 people that is planning a multi-million (Sixty to be exact) dollar storage facility to supplement its current water source in spite of the fact that Red River flows through the heart of the city. But in upstream areas of Texas and Oklahoma the situation is even more critical to the future well-being of communities and farms. Removal of the salt by implementing the Chloride Control Projects authorized by congressional passage of the 1966 and 1970 Flood Control Acts would enable the Red to serve as a practical water source for these communities.

Next, I want to comment on the Red River Navigation Project. With five locks and dams authorized for construction to carry the Waterway from the Mississippi to Shreveport-Bossier, the first is complete, the second is approximately 80% completed and in September 1985 we broke ground on Lock and Dam No.3 at Colfax, Louisiana to mark the halfway point on this project. Now we are told by the President's Budget that no funds are allotted for construction of Lock & Dam No.3 or continuation work upstream. We expected to be affected by national deficits and budgetary concerns, but to have this project stopped at the halfway point - while allotting funds to start nineteen new water projects elsewhere - is both unreasonable and unfair.

The four states Arkansas, Oklahoma, Louisiana, and Texas are all heavily dependent upon agriculture, oil and lumber. All of these industries are in a depressed state with Louisiana leading the nation in unemployment. Completion or continued construction of this project would mean a much needed shot in the arm for citizens in the Red River Basin. These jobs are vitally needed today to offset this high unemployment in the communities along the Red.

Our association is cognizant of the constraints on our Federal budget. We understand the necessity of moderation in funding projects where practical. We do not understand cutting us out completely, depriving our citizens of physical and economic benefits that are rightfully ours while funding new projects in other parts of the nation. Little benefit can be derived until the five locks and dams are completed. I therefore urge you to consider the investment and progress that has already been made in this project, the need and potential it represents, and to take the action necessary to insure completion of the Red River Waterway.

Thank you for allowing me to make these comments in behalf of the Red River Valley Association.

RED RIVER VALLEY ASSOCIATION
ATTENDING HEARINGS IN WASHINGTON
APRIL 15, 1986

Red River Valley Association
Don H. Duggan, Chairman of the Board, Shreveport, Louisiana
Edgar S. Harris, Jr., Lt. Gen. USAF (Ret), President, Shreveport, Louisiana
Lynn Lowe, Vice President, Texarkana, Arkansas
William C. Chapman, Vice-President, Ardmore, Oklahoma
Homer Tanner, Vice President, Hughes Springs, Texas
Harvey Bollinger, RRVA Board, McAlester, Oklahoma
Vincent Foster, RRVA Board, Hope, Arkansas
Robert Mansell, RRVA Board, Wylie, Texas
John Stroud, RRVA Board, Texarkana, Arkansas
Glenn Sullivan, RRVA Board, Oklahoma City, Oklahoma
Joe D. Waggonner, Jr., RRVA Board, Bossier City, Louisiana
Jack Williams, RRVA Board, Washington, D. C.

Red River Valley Association, Enterprise Chapter
Peter Ramsey, President, Shreveport, Louisiana

ARKANSAS

Arkansas Soil & Water Conservation Commission
Randy Young, Director, Little Rock, Arkansas

Red River Commission
Vincent Foster, Chairman, Hope, Arkansas
Lynn Lowe, Commissioner, Texarkana, Arkansas
John Stroud, Attorney, Texarkana, Arkansas

LOUISIANA

Bossier Chamber of Commerce
R. M. Prestridge, President, Bossier City, Louisiana
Ron Fayard, President-Elect & Board of Directors, Bossier City, Louisiana

Bossier Levee District
Dewey Burchett, Secretary, Bossier City, Louisiana
Syd Burt, Bossier City, Louisiana
Daliah MaGee, Bossier City, Louisiana
Franklin D. Roemer, Bossier City, Louisiana

Bossier Parish Police Jury
Doug Brown, President, Bossier City, Louisiana

Caddo-Bossier Port Commission
Sinclair Kouns, Shreveport, Louisiana
R. M. Prestridge, Bossier City, Louisiana
Diana Simek, Bossier City, Louisiana
John Turner, Shreveport, Louisiana

Caddo Levee District
Richard M. Hoban, Lt. Gen. USAF (Ret), President, Shreveport, Louisiana
Jim Adger, Shreveport, Louisiana
Sam Barnwell, Shreveport, Louisiana
Chris Newsome, Shreveport, Louisiana
Murrell Stansell, Shreveport, Louisiana

Caddo Parish Commission
Francis Bickham, Administrator, Shreveport, Louisiana

LOUISIANA (Continued)

Greater Bossier Economic Development Foundation
Congressman Joe D. Waggonner, Jr., Chairman, Bossier City, Louisiana
Doug LeBleu, Executive Director, Bossier City, Louisiana

Ken Juneau & Associates
Ken Juneau, President, Alexandria, Louisiana
John Boyles, Operations Director, Alexandria, Louisiana

Mayor
The Honorable Don E. Jones, Mayor of Bossier City, Louisana
The Honorable C. A. Rhodes, Mayor of Colfax, Louisiana

Red River, Atchafalaya, and Bayou Boeuf Levee District
Buford Smith, Commissioner, Effie, Louisiana
Kerri Sillavan, Alexandria, Louisiana

Red River Valley Area Council
Henry Marsland, Executive Director, Alexandria, Louisiana

Red River Waterway Commissioners
Norman Budd, Alexandria, Louisiana
Coy Cooper, Bossier City, Louisiana
Richard Gibson, Coushatta, Louisiana
Randall Johnson, Bunkie, Louisiana
Don Sonnier, Bossier City, Louisiana
Chester Wells, Alexandria, Louisiana
James Bagley, Legal Research Officer, Baton Rouge, Louisiana

Shreveport Chamber of Commerce
Arnold Lincove, Chairman Econ/Dev Foundation, Shreveport, Louisiana
Robert Daily, Manager, Governmental Affairs, Shreveport, Louisiana

Shreveport City Council
Tom Arceneaux, Councilman, Shreveport, Louisiana

State Department of Transportation & Development
Art Theis, Deputy Chief Engineer, Baton Rouge, Louisiana
Curtis Patterson, Asst. Chief Engineer for Water Resources, Baton Rouge, LA
Coan Bueche, Chief Federal Projects Section, Baton Rouge, Louisiana
Robert K. Smith, District Design & Development Engineer, Baton Rouge, LA
Jim Frederick, Attorney, Baton Rouge, Louisiana

OKLAHOMA

Red-Ark Development Authority
Harvey Bollinger, Director, McAlester, Oklahoma
Mary Goeske, McAlester Oklahoma

TEXAS

Greater Texoma Utility Authority
Jerry Chapman, General Manager, Denison, Texas
John Moseley, Denison, Texas

North Texas Municipal Water District
Robert Mansell, Assistant to the General Manager, Wylie, Texas
Marvin Youngblood, Boardmember, Richardson, Texas

Northeast Texas Municipal Water District
Homer Tanner, Manager, Hughes Springs, Texas
James William Dean, Assistant Manager, Hughes Springs, Texas
Ulvade Stoermer, Director, Hughes Springs, Texas

RED RIVER WATERWAY, LA

Mr. DUGGAN. We would appreciate that. Today we have testifying representatives of the four States we have mentioned here, and each one of them will testify to the specific need within their own State as they are called upon. We also have some very influential supporters here today such as mayors, chambers of commerce presidents, and our good friend Joe Waggonner, a former Congressman here.

We have been sorely disappointed to learn that no money had been allocated to the continued construction of lock and dam No. 3 on the Red River Waterway.

The budget did provide some moneys for 19 new projects, and we just find that hard to comprehend why we couldn't continue this project since it is the oldest unfinished major waterway project in the United States. We are very disappointed over this. You know, we have some $600 million already invested in this project and little or no benefit can be derived from it until we have at least five locks and dams.

If we abandon it on this second one that is about 75 percent completed now, we feel that we are never going to realize any of the benefits that could be derived if we build the other locks and dams. That is why we are here today.

Our four States are very dependent upon oil, agriculture, and the timber industries. I am sure that you in Mississippi have felt the same needs. Louisiana at the moment has the highest unemployment rate of any State in the Nation, in excess of 13 percent. We feel that if we could continue this project, it would provide jobs for just a number of unemployed people in the Red River basin.

I could go on all day telling you of why we should continue this project, but I have some very capable people along today who can do a better job of it than I. You all remember Joe Waggonner, who very capably represented the Fourth District of Louisiana for over 20 years, and he is going to be our leadoff witness.

Joe?

STATEMENT OF JOE D. WAGGONNER, MEMBER, BOARD OF DIRECTORS, RED RIVER VALLEY ASSOCIATION, AND FORMER MEMBER OF THE U.S. HOUSE OF REPRESENTATIVES FROM LOUISIANA

Mr. WAGGONNER. Thank you, Mr. Duggin, Mr. Chairman, Senator Stennis.

It is a privilege for me to have the opportunity to come back and visit both of you as old friends. I think I understand what your work is like here beyond what anybody else here might really understand. You can't understand this town even if you have been here on occasion. [Laughter.]

But I have more in the way of an understanding than others that do. I am here this afternoon in total support of the needs on whatever schedule that we can find to do that which is done in the way of the development of the Red River Valley basin. I used to joke when I was here, but there was a degree of seriousness with it, too, that I was with the people, but now I say since I am back home, I am with the interests. Now, that isn't exactly so, because one of my free, gratis jobs is to head up, in your area, economic development and help people get jobs to make a living.

We need somebody to do that, and I am involved. Surely, you are aware that I never, ever, when I was here, opposed the authorization of any public works project, and I never opposed any appropriation for a public works project. I supported whatever the committees recommended, because I thought they were specialists and they needed our support.

But you know, today isn't yesterday, and tomorrow won't be today. Will Rogers said it better than I. Will Rogers used to say in his heyday, he used to say, "Things ain't what they used to be," and he'd go just a little further and say, "As a matter of fact, they never were."

That is about what it is like. Washington isn't what it was when I was here just a few years ago, and you recognize the changes better than I do.

BUDGETARY POLICY

The problems you have are different. You have constraints now you did not have even when I was here, and we had enough in the way of constraints and limitations then. You have fewer dollars to do what the country needs with. You have to establish priorities. You have to deal with Gramm-Rudman-Hollings. You have to deal with not what the courts spoke to while I was here in the way of impoundment of appropriated dollars, but now the scheme is to defer, so it is a matter of deferral.

But my criticism is now that the employment of deferral is that the Office of Management and Budget wants to determine what the policy, priority needs of this country are, and I don't think that is really their job. I think that is for the legislative branch of government, and the executive branch of government is to execute that which the legislative branch provides for.

I have no doubt, absolutely no doubts that you are doing what should be done. Our project is in every respect worthwhile. People don't talk much about municipal water in our area. We need the infrastructure base to broaden the economic development potential of our area. So, I hope we won't all be blind as a nation about our water policy as we were about energy policy.

You know your job. I didn't come here to try to tell you what to do with your job. I leave it in your hands and I have total confidence in you. You know what your limitations are, and my only appeal to you is to treat us fairly and don't let the Office of Management and Budget decide what this country needs. Just give us whatever you can in some fair way with the dollars which you have.

It would be wrong for us to ask for more. We know you will take care of us when it is time. I know that you will even cope with the demands of the Office of Management and Budget, and you will try to provide appropriation language which will not allow them to defer that which you desire doing, and that we believe you will do.

We thank you for what you have done for us and thank you for what I know you are going to do for us.

Senator COCHRAN. Thank you, Congressman.

Mr. DUGGAN. Thank you, Joe.

RED RIVER CHLORIDE CONTROL PROJECT

STATEMENT OF WILLIAM C. CHAPMAN, VICE PRESIDENT, RED RIVER VALLEY ASSOCIATION REPRESENTING OKLAHOMA

Mr. DUGGAN. The next speaker will be Mr. William Chapman. He is vice president of the Red River Valley Association, representing the State of Oklahoma.

Senator COCHRAN. Mr. Chapman, welcome.

Mr. CHAPMAN. Mr. Chairman, members of the committee, if there was ever an unenviable position, I think I am in it. First, to have to follow first Will Rogers, but more importantly, to follow Joe Waggonner. I had that honor this morning, and I have it again today. I consider that an honor to be able to follow him, but I don't think it is one that is unenviable after such a good presentation as his.

Gentlemen, I have submitted written testimony and will allude to that largely, but I would like to make a few comments to impress on you the importance of that written testimony. Each day in the Red River Valley an equivalent of 55 railroad train cars, 55 railroad train carloads of salt, sodium chloride, that are dumped in the Red River every day of the week, every day of the year. That salt finds its way down the Red River, on to Shreveport, and down on into the Mississippi. This, of course, makes the water highly unusable for both municipal use as well as irrigation and other uses. I would like to speak to you briefly about this.

A good number of years ago, the Federal Government, and the States of Oklahoma and Texas, where the salt sources are found, had a meeting. They agreed that this was to be a joint effort, and it is my understanding that the three groups agreed that the Federal Government would set about to solve the problem of the natural sources of which there were 10 identified.

The States of Oklahoma and Texas would set about to cure the 33 percent of that salt source, which were man-made sources, oil wells, and that type of thing.

To date, two States have cured about 85 percent of that 33 percent identifiable. The State of Texas, I understand, spent something like $52 or $53 million on their portion of that. I don't have the figures for Oklahoma. It is my understanding that Oklahoma and Texas spent like $5 to $10 million dollars correcting this source of salt.

The Federal Government, on its part, through your help, has set about on the 10 sources they have named and cured the salt coming from two sources. That is where we are today. We would like to ask that you set about to help us on more of those sources, specifically, areas 6 and 10 as I allude to in my written testimony.

We feel like this is one of those cases where we have cost sharing, and Oklahoma and Texas have been busy in their cost sharing, and we would like for them to continue on with theirs.

Thank you very much for the opportunity to testify today.

Senator Cochran. Thank you, Mr. Chapman. I appreciate your testimony and your statement which we have.

[The statement follows:]

STATEMENT OF BILL CHAPMAN, OKLAHOMA VICE PRESIDENT, RED RIVER VALLEY ASSOCIATION

My name is Bill Chapman, and I serve as the Oklahoma Vice President of the Red River Valley Association. I was raised and still make my home in the Red River Valley. I am an attorney and a rancher. I and other members of my family have several agricultural holdings along the Red River in Oklahoma as well as Texas. As a result of these interests and being a lifelong resident of the Red River Valley, I am deeply interested and concerned about the proper development and utilization of this valuable national resource.

We in Oklahoma are concerned with several projects in the Red River Valley. This is appropriate since almost half of the State of Oklahoma is in the drainage basin of the Red River. The remainder of my presentation will address these projects and our request regarding each.

The Corps of Engineers, during FY '86, received funding for three hydropower projects. Two of these projects are existing lakes for which hydropower is being studied for addition as a project purpose. The third lake is a authorized project which is being restudied, prior to construction, to consider the addition of hydropower. Although none of these studies are scheduled to be completed with the funds provided in FY '86, two studies were not programmed to receive any additional funds in FY '87 under the proposed Corps of Engineers budget. We feel that it would be a significant waste of already invested resources to discontinue these studies prior to their completion. We therefore, in our written testimony, have asked for specific funding levels to complete these three studies.

There are two lakes in the construction phase in Oklahoma which we are vitally interested in. McGee Creek Lake is the only project under construction in the Oklahoma portion of the Red River Valley. This lake is being constructed by the Bureau of Reclamation as a multipurpose project. The dam is nearing completion with the entire project scheduled for completion in FY '88. In order to keep this project on schedule and to fully realize the previous investment, we are asking that $7,755,000 be provided to continue this project in FY '87.

The second lake I would like to discuss with you is Sardis Lake, a Corps of Engineers project. The dam and lake were officially dedicated in June of 1983. Although authorized at full Federal expense, $2.4 million worth of recreational facilities were never constructed. Without these facilities, the recreational benefits originally envisioned when the project was authorized cannot be achieved. We therefore ask that Congress provide $500,000 of funds this year, at full Federal expense, to accomplish additional recreation development as originally planned and authorized.

Another on-going effort important to the Oklahoma Delegation is the continuation of the Red River Basin Comprehensive Study. Feasibility studies for the Oklahoma portion are underway at full Federal expense, as directed by Congress, with completion scheduled for March 1989. We appreciate the support which this project has received from your Subcommittee since its authorization. It is vitally important to our area. We understand that the Corps has testified before Congress that if it received its full capability for FY '87 that it could accelerate the completion date to October 1988. Therefore, we request that Congress provide the capability in the amount of $1,150,000 in FY '87.

I would like to spend the rest of my time addressing two projects which have somewhat of an unique status. The first of these is Parker Lake. The Corps of Engineers completed an interim survey report on Parker Lake in 1975. This report recommended Parker Lake as a multipurpose project which would provide protection against flooding, a dependable water supply for M&I purposes, recreational lands for future use, and fish and wildlife mitigation. The total project cost is $48,100,000 with benefit/cost ratio of 1.2:1. The project was recommended for construction as proposed by the Chief of Engineers in his 30 May 1980 report.. It was transmitted to OMB on the 25th of April, 1985 by the Assistant Secretary of Army for Civil Works with a recommendation to construct. Parker Lake was authorized for construction by PL 99-88, 15 August 1985, contingent upon the execution of a local cost sharing agreement acceptable to the Assistant Secretary of Army. Both the Oklahoma Water Resources Board and the RedArk Development Authority indicated a willingness to agree to be the non-Federal sponsors. OWRB provided a draft letter of assurance on the 4th of September, 1985, in which it agreed to non-Federal cost sharing as allowed under the provisions of Senate Bill 1567. However, on the 12th of December, 1985, OMB sent a letter to OSA stating that there was no Federal interest in constructing Parker Lake because its flood control benefits were only eight percent of the total benefits. In additional to its authorization by PL 99-88, Parker Lake was approved by the House for construction in 99HR6 and by the Senate in 99S1567.

The Oklahoma Delegation of the Red River Valley Association contends that (1) the OSA recommended the project for construction as a multipurpose project, (2) there exists no authorized criteria or guidelines which allow OMB to declare a project with only eight percent flood benefits a single purpose project and, therefore, there to be no Federal interest in its construction, (3) that Congress declared a Federal interest in Parker Lake by authorizing it for construction in PL 99-88 and subsequently in 99HR6 and 99S1567, (4) that OMB has no authority to direct OSA to not fulfill its responsibilities as established by acts of Congress. We therefore request Congress to authorize Parker Lake for construction in such a manner that its intent will be carried out by the OSA, and (2) to provide funds in the amount of $950,000 in FY '87 to complete on-going planning and engineering on this project.

The second project with an unique status is the Red River Chloride Control Project. Congress authorized construction of this project with PL 89-789 and PL 91-611, with removal of natural pollution as a Federal responsibility and the removal of man-made pollution a responsibility of non-Federal interest.. The local sponsors have faithfully kept their word and executed their side of the agreements. Both the States of Texas and Oklahoma have expended millions of dollars to control the man-made pollution. Therefore, we fully believe the non-Federal role is being achieved and will continue to be strengthened. However, now the Federal Government is reneging on its word and agreements to make the necessary investments to construct the project in order to control the natural pollution.

The Federal government began construction of the Red River Chloride Control Project in accordance with the authorizing legislation and the official agreements with the local sponsors. However, in February of 1982, the Assistant Secretary of the Army for Civil Works notified the local sponsors that non-Federal financing of a major portion of the natural pollution control project would be required to proceed with the construction of the remaining elemments of the project.. Once the Federal government began construction of the Red River Chloride Control Project, the signed agreements of 1976 and 1978 between the Federal government and non-Federal sponsors became binding.

This project is greatly needed by the citizens of Oklahoma, Texas, Arkansas and Louisiana. Water in the 94,000 square mile Red River Basin is polluted by sodium chloride to the point of severely limiting its use. It is obvious that this project is of major importance not only to the area but also to the nation. There is definitely a national interest in cleaning up the waters of such a major national resource. We therefore strongly request that the Secretary of the Army immediately forward the report which he is holding on this project to OMB with a favorable recommendation for the initiation of construction on the remaining areas and that the Corps of Engineers receive 100 percent Federal funding in the amount of $10,000,000 to initiate construction on Areas VI and X in FY '87.

I thank you for this opportunity to share with you my concerns about the development of our Nation's most vital resource, its water.

STATEMENT OF HOMER TANNER, VICE PRESIDENT, RED RIVER VALLEY ASSOCIATION REPRESENTING TEXAS

Senator COCHRAN. Mr. Duggan?

Mr. DUGGAN. Mr. Homer Tanner is the next speaker, representing the State of Texas. He is also a vice president of the Red River Valley Association.

Mr. TANNER. My name is Homer Tanner, gentlemen, and I am glad Bill Chapman was here to intercede between myself and Congressman Waggonner. He represented the northwest part of Louisiana for many years and we always felt like he represented us in northeast Texas, too. Mr. Chapman is a good buffer between he and I. Next year if you have a tape recording of this, I would like to have Joe Waggonner's speech with mine, if I am here. I noticed you were all listening to him with rapt attention. I will trust that you will do what he asks you to do.

I will synthesize my written statement and say that I want to double in spades what Mr. Chapman has said about the Red River chloride control project. I don't want to go into a great deal of detail about that.

The Corps of Engineers have provided me with capabilities and funding levels. The Red River Valley Association has also provided you with this information.

We will provide you with information from the Texas Department of Water Resources. That has been submitted for inclusion in your record.

At this point, I suggested that documentary evidence is overwhelming. For me to deal with it today here would be a waste of your time and my time, and we can just get on with the project at hand. We are requesting funding to enhance the water quality project through the Red River Chloride Control Program.

We are also requesting funding for the Cooper Lake and channel project. We have spent many years asking you to give us funding for the Cooper Lake project in the Sulphur River basin that would provide adequate water supply for the Dallas metropolitan area. That project is now off dead center. It is under construction, and we certainly can use the money. You have been very gracious and very patient in watching that project work its way through the Federal court system, and it is now done. We need that particular project taken care of.

Also, there are overriding projects that others of my colleagues here today will speak to, and that is the Red River navigation and bank stabilization. We support that 100 percent. The bank stabilization effort involves the States of Texas, Louisiana, and Arkansas. We want to let you know that we are 100 percent behind all of those projects.

We also understand the constraints that you have up here. We know that you are working with a reduced budget. We in the State of Texas would like for you to understand that we don't mind taking our fair share of the budget cuts that are required, but we don't want to be affected deliteriously by some other project getting more money than we get. If we will all join hands together, I think we can come through this in pretty good shape.

Thank you for listening to me.

Senator COCHRAN. Thank you very much, Mr. Tanner.

Mr. DUGGAN. Thank you, Homer.

[The statement follows:]

STATEMENT OF THE RED RIVER VALLEY ASSOCIATION (TEXAS)

Mr. Chairman, Members of the Committee:

My name is Homer Tanner, I speak to you as the Executive Committee member of the Red River Valley Association from the State of Texas. I am also the Executive Director of the Northeast Texas Municipal Water District, a political subdivision of the State charged with the orderly development of the water resources of a significant segment of North East Texas.

My colleagues and associates have asked that I address you today to summarize our concern for the development of water resource projects in the Red River Valley.

The specific projects we appear here to support have been documented in detail. The Corps of Engineers have provided capabilities and funding levels, the Association has provided additional evidence supportive of the valley's needs, the Texas Department of Water Resources has provided an indepth analysis of the specific requests of Texas' interest and are submitted herewith for inclusion in the record. At this point, I suggest the documentary evidence is overwhelming and for me to review again the specific projects in Texas would be redundant and time wasted.

What has not been documented, however, is the citizen support and effort that has culminated in the Association's presentation here today. With me in the audience are individuals interested in water development that have been; elected - appointed - employed by water related organizations - the business community - the farming community and people who are just plain motivated by a sincere desire to insure adequate water supplies for future generations - to save land from caving - to reduce flooding or to enhance our inland waterway system.

We represent literally thousands of Texans. People whose lives and roots are in these communities. People who are making an effort to provide for the future water needs of their children and grandchildren. Many hundreds of valley residents provided input encapsulated in the presentations we make today.

This region provides the world with pipe products, electronics, computers, energy technology, machine tools and financial resources. . . Our farmers supply the nation with a major production of cotton, grains, cattle, dairy products, vegetables and other foodstuffs. The northern tier of Texas contains a vibrant segment of our nation's economy. Exports of valley products are a significant percentage of our nation's balance of trade. Regional population is growing at a rate matched by few in this great country. Water, it's conservation and development, and the attendant preservation of our soil resources are of paramount importance, both now and for future generations.

We are requesting project funding to enhance water quality thru salt abatement programs that will ultimately result in vast quantities of not now available domestic and agricultural wates the entire length of the river. Flood control measures speak for themselves as do the water supply projects. Bank stabilization and related projects also enhance the entire river and affect all those people we represent plus the many more in our neighboring states with whom we have joined efforts. Navigation of the waterway will provide an economic value to the valley and the nation far beyond a purely dollars and cents analysis - the human values should be given paramount consideration.

There are overriding reasons otherwise set forth by my colleagues here today that speak to the need for continued funding of the navigation feature and we in Texas wish to endorse unequivocally the request for appropriate construction funds. To insure the orderly continuation of the project.

The valley people's patience and perseverance is now beginning to show results as witness the existing navigation locks and dams -- the beginnings of a chloride abatement project -- pre-construction projects on Cooper Lake -- continuing bank stabilization the length of the river, now we ask your continuing support.

The President has asked us all to share in balancing the national budget. We in Texas can accept that request and will gladly join hands with all other Americans of like mind in accepting reasoned budget cuts that would not cause deleterious effects to valuable ongoing projects.

We here, representing the "folks back home" have for the past several years stated our support of the President's and the Congress' desires to reduce the federal deficit, and in a show of good faith, have refrained from requesting funding for frivolous projects asking only for those dollars that can return a benefit to the country.

Thank you for listening to me.

STATEMENT OF JOHN STROUD, MEMBER, BOARD OF DIRECTORS, RED RIVER VALLEY ASSOCIATION REPRESENTING ARKANSAS

Mr. DUGGAN. Our next speaker is Mr. John Stroud. He is a member of our board of directors and represents the State of Arkansas.

Senator COCHRAN. Mr. Stroud?

Mr. STROUD. Mr. Chairman, I appreciate being here as an attorney for the Red River Commission of Arkansas, created 13 years ago when Senator Bumpers was Governor. You will recall when he spoke to you earlier this afternoon, he mentioned two projects on the Red River that I would like to mention again in a little bit of detail.

We support the navigation project and we will support it when it passes Arkansas and heads into Oklahoma and Texas; we will be right here to support it again.

RED RIVER WATERWAY, SHREVEPORT, LA, TO VICINITY OF INDEX, AR

The Red River Commission was created as an administration bill in the State of Arkansas specifically to have an entity to work with the Congress and the Corps of Engineers for the development of the Red River upstream from Shreveport, LA, to Index, AR, which is the Texas-Arkansas border.

I want to point out to you that in fiscal year 1984, you made an appropriation for preconstruction planning, and you did the same in fiscal year 1985. Both of those funds were diverted by the Corps of Engineers to savings and slippage. We didn't know about that until about 2 weeks ago.

We feel like we have had a little slippage that has occurred to us where money you have appropriated for the continued planning of this project has not gone toward that planning; more went toward the savings and slippage than needed to finish the program. The Corps tells us that $842,000 will finish the preconstruction planning that started over a dozen years ago. We ask you very sincerely to put in $520,000 again, which you have done before, and we are confident this time it won't be in slippage but will result in the continued preconstruction planning.

RED RIVER EMERGENCY BANK PROTECTION PROJECT

Finally, I would mention, again, a project mentioned by Senator Bumpers in his oral statement and by Senator Pryor in his verbal statement, and that is the Red River emergency bank protection. That is where the money has been coming from that has allowed cutoffs and stabilization work to be performed in Arkansas. It has helped substantially, and we ask that you please continue that appropriation until we can move from planning to construction in the comprehensive program.

Senator Pryor, when he was Governor, had the first money put in our Red River Waterways trust fund. It has grown with subsequent contributions through the years from the State to over $5 million, and we have money, for the counties and cities and towns in our area have contributed where we will have and do have the money in the bank to meet the non-Federal costs in Arkansas. But we can't do that without 2 more years of planning.

We ask you please to let that occur.

Thank you.

Senator COCHRAN. Thank you.

Mr. DUGGAN. Thank you, John.

[The statement follows:]

STATEMENT OF JOHN F. STROUD, JR., MEMBER, BOARD OF DIRECTORS, RED RIVER VALLEY ASSOCIATION, REPRESENTING ARKANSAS

1. Red River Waterway, Shreveport, Louisiana to Index, Arkansas - for continuation of preconstruction planning;
   President's budget request for FY-87 - none
   Our request - $ 520,000

2. Red River Emergency Bank Protection (Louisiana, Oklahoma Arkansas and Texas);
   President's budget request for FY-87 - none
   Our request - $15,100,000

3. Red River Levees and Bank Stabilization Below Denison Dam (Texas, Arkansas and Louisiana);
   President's budget request for FY-87 - none
   Our request - Full Corps Capability

4. Reshaping levees on Red River and Arkansas - for preconstruction planning;
   President's budget request for FY-87 - none
   Our request - $ 500,000

5. Red River Bank Stabilization, Index, Arkansas to Denison Dam, Texas (Arkansas, Oklahoma and Texas) for resumption of preconstruction planning;
   President's budget request for FY-87 - none
   Our request - $ 350,000

6. Red River Below Denison Dam, Comprehensive Basin Study (Arkansas, Louisiana, Oklahoma and Texas) for continuation of planning
   President's budget request for FY-87 - none
   Our request - Full Corps Capability

7. Red River Waterway, Mississippi River to Shreveport, Louisiana - to continue construction;
   President's budget request for FY-87 - $38,000,000
   Our request - Full Corps Capability

GENERAL STATEMENT

On behalf of the Red River Commission of Arkansas, as its attorney, I wish to thank the members of this Committee for the opportunity to again express the concerns, needs and priorities of funding from the Congress to continue the orderly development of the Red River Valley in Southwest Arkansas.

Nineteen years ago, the bank caving in Southwest Arkansas accelerated to such an extent that the levee boards in that area banned together to form an association to present testimony to the Congress with a united voice. At that time, some of the upstream dams in Arkansas and Oklahoma had been completed which greatly alleviated the threat of floods, but which rapidly accelerated the bank caving due to the river remaining at one-half to two-thirds bank full for long periods of time. Since that time upstream dams known as Millwood, Gillham, Dierks and De Queen have been completed which have further reduced the threat of flooding, but which have accelerated the bank caving even more.

The State of Arkansas became concerned at this rapid irreparable loss of the most fertile farm land in Southwest Arkansas and thirteen years ago created the Red River Commission upon the recommendation of then Governor, but now Senator Dale Bumpers. The Commission was vested with the authority to furnish the local cooperation necessary for the construction and study of projects and to coordinate with the Corps of Engineers and the Congress to develop the water resources of the Red River in Arkansas. Southwest Arkansas is fortunate to have an abundance of water, rich soil and timber resources, but we vitally need the assistance of Congress to continue the bank stabilization projects for the preservation of these natural resources.

RED RIVER WATERWAY PROJECT, SHREVEPORT, LOUISIANA, TO INDEX, ARKANSAS

The Congress has funded preconstruction planning for this comprehensive bank stabilization program for several years for the reach of the river from Shreveport, Louisiana upstream to the Arkansas-Texas boundary at Index, Arkansas, but no appropriation was made last year. Although much needed stabilization work in certain areas has been performed with funding by the Emergency Bank Protection and Red River Below Denison Dam projects, only through the completion of preconstruction planning and then construction of this comprehensive bank stabilization program can the loss of valuable farm land be brought to a conclusion. The Corps of Engineers has estimated that over 1,000 acres of farm land is lost each year in this reach of the river due to bank caving. A typical example is the farm of Dan York in Little River County, Arkansas. His home, headquarters and shop are less than 300 yards from the eroding bank, but were more than a mile away before the upstream dams were constructed. He loses about 15 acres per year to the river and will lose his home, headquarters and shop in a very few years if the river is not stabilized.

Tens of thousands of dollars have been contributed by the four counties bordering the Red River in Arkansas and by the towns and communities within those counties and over five million dollars has been placed in the Red River Waterway Trust Fund by the Arkansas General Assembly to meet the non-federal costs required upon construction of this project. The Red River Commission is continuing full speed ahead in its efforts to have the non-federal costs in hand when the preconstruction planning is completed so that construction can begin in an orderly manner without great delay. Only two more years of continued preconstruction planning will be required before the Corps of Engineers will be in a position to proceed to the construction phase.

Not only will this project end the loss of some of the nation's most valuable resources, which this country can ill-afford to waste, but substantial benefit will accrue to the navigational project downstream which is presently under construction. The farm land is now washed downstream only to form worthless sand bars and place tremendous amounts of silt in the channel, both to the detriment of navigation. We, therefore, request an appropriation of $520,000 during fiscal year 1987 to resume preconstruction planning of this comprehensive bank stabilization program.

RED RIVER EMERGENCY BANK PROTECTION (LOUISIANA, OKLAHOMA, ARKANSAS AND TEXAS) AND RED RIVER LEVEES AND BANK STABILIZATION BELOW DENISON DAM (TEXAS, ARKANSAS AND LOUISIANA)

It is imperative that these two programs continue to be funded to provide bank stabilization works in those portions of the river where the caving is most critical and where valuable land and public facilities such as highways, pipelines and bridges are in danger of destruction and to provide stabilization where that protection is cheaper than repeated levee set backs.

Approximately five years ago, the first cut-off performed on the Red River in Arkansas was completed and is known as Mays Lake Cut-off. The Corps of Engineers just completed the second cut-off last winter which is known as Goose Lake Cut-off and which eliminated a double bend in the river. Funding of the Emergency Bank Protection and Red River Levees and Bank Stabilization Below Denison Dam projects will continue to allow these vital improvements to be accomplished in the areas most critical during the completion of planning still required before a comprehensive bank stabilization program can begin to be constructed. In the summer of 1982, the Red River broke through a narrow strip of land between it and Little River where a water treatment facility is located for the treatment and transmission of pure drinking water to the city of Hope, Arkansas. Repairs are in progress, but certainly preventive bank stabilization works could have been accomplished at a fraction of the cost of those repairs. This is but one example of the necessity for continued funding of these programs to avoid substantially larger costs which will result from delays of funding.

We urge your inclusion of funding of the Emergency Bank Protection and Red River Levees and Bank Stabilization Below Denison Dam programs in the full amount of the capability of the Corps of Engineers for fiscal year 1987.

RESHAPING LEVEES ON RED RIVER IN ARKANSAS

The Corps of Engineers has completed a study indicating that the levees along the main stem of the Red River in Arkansas should be reshaped to conform to the new flow line resulting from the study. The reshaping of the levees will allow a more gentle slope on both sides of the levee to increase their integrity and substantially reduce maintenance costs. The State of Arkansas urges that Congress appropriate the sum of $500,000.00 to initiate pre-construction planning of this project.

RED RIVER BANK STABILIZATION, INDEX, ARKANSAS TO DENISON DAM

Bank caving is not only a serious problem between Shreveport, Louisiana and Index, Arkansas, but it continues upstream between Index, Arkansas and Denison Dam, Texas. The Congress saw fit to initiate preconstruction planning for a comprehensive bank stabilization project in that reach of the river during fiscal year 1984, but it has not been funded for continued study since that year. We join with our sister states of Texas and Oklahoma in urging the reinstatement of this preconstruction planning project recognizing that many years of planning are required before construction of this type project can begin. We hope that an orderly development up Red River can continue in the years ahead for the benefit of the peoples of all four states bordering the Red River. We, therefore, urge you to appropriate the sum of $350,000 to resume this preconstruction planning program during fiscal year 1987.

RED RIVER BELOW DENISON DAM, COMPREHENSIVE BASIN STUDY

We think the administration displayed sound judgment when it included initial funding for a comprehensive study of the entire Red River basin during fiscal year 1984 to include flood control, water supply development, generation of hydro-electric power, development and enhancement of recreational potentials and improvement of the river for navigation and port-site development. The study of hydro-electric power in conjunction with navigation on the Red River will undoubtedly prove of economical benefit if timely studied. We, therefore, urge your approval of the full Corps capability for fiscal year 1987 to continue this comprehensive study.

RED RIVER WATERWAY, MISSISSIPPI RIVER TO SHREVEPORT, LOUISIANA

It is a pleasure for the Red River Commission of Arkansas to join with the State of Louisiana to seek continued funding of the construction and completion of Lock and Dam No. 2 and the continuation of construction of Lock and Dam No. 3. We are well aware of the economic impact that will occur not only to Louisiana, but certainly to Southwest Arkansas when the navigable channel reaches the port of Shreveport, Louisiana. We, therefore, urge your approval of an appropriation of the full Corps capability for fiscal year 1987 for this project.

RED RIVER WATERWAY, LA

STATEMENT OF RANDALL JOHNSON, COMMISSIONER, RED RIVER VALLEY COMMISSION

Mr. DUGGAN. The next speaker is Mr. Randall Johnson. He is a commissioner of the Red River Waterway Commission and a businessman from central Louisiana.

Mr. JOHNSON. Thank you, Don and Mr. Chairman and other members of the committee. As a senior member of the Louisiana Red River Waterway Commission serving for over 20 years and being a lifelong resident of the Red River Valley, I can assure you of the value and the potential of the Red River Waterway project to Louisiana and to its citizens. The other accrued benefits to the United States as a whole are the hydroelectric power potential for the project that the State of Louisiana alone has committed itself to underwrite its costs.

Ladies and gentlemen, this project, the Red River Waterway, is too important and has progressed so far that it must be continued for the benefit of our citizens and the country. Transportation on the Red River is essential, and its cost-to-benefit ratio fully justifies it.

RED RIVER LEVEE AND BANK PROTECTION PROJECTS

There are two other items that I would like to bring up. One is, of course, that there have been two other projects on the Red River that are from Colfax, LA, to Shreveport. That part of the river has, frankly, been neglected by the Federal projects. It is known as the Red River levee and bank stabilization below Denison Dam and the Red River emergency bank protection.

The administration has decided that the work on these two projects should cease construction because the Red River Waterway project would accomplish the same objective, but that is not quite true.

However, if those projects were funded, then we would be able, of course, to go ahead with more work above pool 2, which extends up to Colfax, LA, in the vicinity of lock and dam No. 3. If we could go ahead in those particular areas then we would be in much more of a position to proceed up the river and carry on as far as Shreveport.

There are 13 projects in that group that are cutoffs and bend easings, and we would like to request that they be identified and kept in the request for appropriations so that those particular items can be left and will also be definitely dedicated to that work. The rights-of-way for those jobs have been acquired in many cases by the Waterway Commission and are available to the U.S. Corps of Engineers. Work on the rest of it can be done in a very short manner.

We are prepared in the State of Louisiana to furnish the rights of way and the necessary other work for that part of the river.

I would like to point out to the committee that the Red River Waterway Commission in Louisiana has been very active in the pursuit of this project, and we think we are the kind of response that this administration is looking for. In addition to providing rights-of-way for this project, we have invested a great deal of time and money toward recreation development and have done some construction without Federal funds in hopes that we would further share in 50/50 agreements which, of course, have been in some of the legislation.

HYDROPOWER DEVELOPMENT

Additionally, the commissioners agreed in principle to provide upfront financing for the hydropower development on the Red River, provided this is done under certain circumstances, and it is recommended by the Corps of Engineers, and also the fact that we would have contracts with the Southwestern Power Administration.

I want to just personally say that I have had some hand with the negotiations at the Southwestern Power Administration, and it is definitely a feasible situation that we think it would be viable to handle down there. We have been active along with government representatives to represent the port development in the city of Alexandria, some in Shreveport, LA, and we have taken the lead in the regional and economic development plan to be drafted to assure ourselves we are doing everything we can to take advantage of this project.

We think we are doing this in a manner that is supportive of the administration's goal and Congress' goal of reducing the national deficit. We believe our request is compatible with that goal and that we are requesting only about two-thirds as much as was appropriated for the present fiscal year. We wish to be recorded, as going along with our fellow States, with the work that they are asking for, because what happens on the upper reaches of the river affects us, naturally, on the bottom, and what we do at the lower end affects everybody equally so.

We ask that you give us all of the thought and consideration that you could. We thank you very much for giving us this opportunity, and I just want to say from the great State of Louisiana we are willing to do our part, and we hope that we can ask for your help. We ask you.

Thank you.

Senator COCHRAN. Thank you, Mr. Johnson.

RED RIVER WATERWAY, LA

STATEMENT OF DON JONES, MAYOR, BOSSIER CITY, LA

Mr. DUGGAN. Thank you.

One of the brightest young men to appear on our horizon in a long time is the mayor of Bossier City, LA. His name is Don Jones, and we are delighted to have him testify this evening.

Senator COCHRAN. Welcome, mayor.

Mr. JONES. Thank you, Mr. Chairman. I shall not belabor the point. Obviously, we appreciate the funding that the Red River Waterway project has received in previous years, and we are here again to ask for continued funding of that project. The benefits of waterway navigation and hydroelectric power, water supply, and commerce has been discussed by the previous speakers.

But I would call to your attention the fact that the Red River Waterway project is not just a local project; it has national significance. A certain interaction exists with trading partners domestically, such as the General Electric plant in Shreveport, LA, that operates a steel warehouse in Natchez, MS, where a majority of the 5,000 tons of Pennsylvania steel comes through to provide for that General Electric plant.

To improve the competitive position of our industries against foreign imports, enhancing opportunities for future expanse, and additional employment is one of the goals of this waterway. The Gulf South Research Institute and the Corps of Engineers studies denote national benefit from the waterways project, not just local impact. It is not just jobs for Louisiana, Arkansas, Texas, and Oklahoma, but jobs for America.

Competitive transportation rates allow area manufacturers and their trading partners in Illinois, Pennsylvania, Indiana, and Ohio to continue trading with each other, while enhancing participation in global economy through the Ports of New Orleans and Houston. We are not asking for a subsidy nor for a tax exemption for industry, but simply for another tool for American industry to gain the competitive edge in international trade.

Thank you very much, Mr. Chairman.

Senator COCHRAN. Thank you, mayor.

[The statement follows:]

STATEMENT OF MAYOR DON E. JONES OF BOSSIER CITY, LA

Bossier Parish, Caddo Parish and 56 other parishes and counties extending from north central Oklahoma, by way of central and southeast Texas to the Louisiana and Mississippi Gulf Coasts, generated twenty-four (24) percent of the nation's real economic growth from 1970 to 1982. Imbedded within this economic growth area is the Red River Region that is the site of the proposed Red River Waterway Project to be addressed here.

This waterway will be similar to the McClellan-Kerr project on the Arkansas River in regard to economic development contributions such as users' reduced costs of operation and services, and other benefits such as generation of jobs associated with navigation, recreation, electric power production and flood control.

Additionally, the Red River Waterway will provide improved competitive positions for industry, allowing area manufacturers to compete in the global economy against foreign imports while enhancing domestic opportunity for future expansion and added employment not only in the Red River Region but throughout the United States. Thus, such a project could fairly be termed "America's Project".

The Project's construction has been justified by the U. S. Army Corps of Engineers showing that the economic benefits to the nation will be greater than the cost of constructing the Waterway.

The Red River Waterway Commission has provided a study of economic benefits to the Red River Region that would result from the construction of the Waterway. Using the high growth scenario, it is estimated that by the year 2020, the annual increase in business activity will be over $1.7 billion and an annual increase of over 15,000 jobs. The high growth scenario is probable given an active and coordinated economic development effort.

It was determined that the industries most likely to iniate an economic upswing on completion of the Waterway are: agricultural commodities (production or use of), ores, coal, lignite, sand/gravel, chemicals, petroleum and related products, iron/steel products and large machinery. The Red River Region supports crop and timber production, oil and gas extraction and mining of lignite.

However, the real benefit of this project can be realized if invisioned as "America's Project". The import flood taking place through the ports of Houston and New Orleans with foreign trading partners is the trend of the future. If America is to take a prominent position in the world economy, our manufacturers must be given the tools to compete. A more competive position in regard to transportation costs is such a tool and can enhance employment domestically, not only in the Red River Region, but also in states like Indiana, Illinois, Ohio, Michigan, Pennsylvania, Missouri, and Kentucky where wire, steel, cement and other products are manufactured and shipped into other parts of this country.

The additional interaction in commerce made possible by waterways such as the proposed Red River Waterway, is evident in other parts of the country where such a tool has been provided. Given the economic slump that Louisiana and the Red River Region is experiencing now, we take particular exception to the policy decision about the value of this project and request that we are allowed the same opportunities for economic development in this region as enjoyed in other parts of our nation.

While expressing our deep appreciation for past considerations, we vigorously request continued funding on this project for America.

STATEMENT OF MAYOR JOHN HUSSEY OF SHREVEPORT, LA

I appreciate this opportunity to join with delegates from the Red River Valley Association in addressing you on the critical issue of promoting water projects that will clean, control and provide more beneficial uses of the Red River.

Red River navigation is critical to the future economic development of this area. In a letter dated March 20, 1985 to you, I discussed the need for such a navigation project. In that letter, I praised the initiation of Lock & Dam 3 and the scheduled implementation of Lock & Dams 4 & 5. A year has passed and the outlook is not as bright as I painted in that letter. Lock & Dam 3 has not been started. Lock & Dams 4 & 5 are not under a healthy implementation schedule at the present time.

The City of Shreveport has undertaken a very serious and aggressive study of economic development for this area. Our consultants, Mt. Auburn & Associates and Belden Daniels, created for us a multi-initiative program, which would, in the long term, bring economic health to northwest Louisiana. One of the prime features of this study was creating a distribution center in Shreveport by enhancing our transportation mediums. A major component of our economic recovery efforts is based on the opening of Red River for navigation. Although I am quite aware of the severe budgetary restraints which you and we as municipalities now face, I'm again requesting your serious consideration of this project because of the economic impact which it offers.

As always, I appreciate the opportunity to address the Senate and House Subcommittees for Energy and Water Developments, and urge your support for this most worthwhile project.

CLOSING REMARKS

Mr. DUGGAN. Thank you, Don. Thank you, Mr. Cochran.

We had wanted to introduce Mr. Prestridge here, but I understand you have a vote that is being called for, so we will wrap it up at this time. We have tried to abbreviate our remarks because of the time element here, but don't think for one minute that we don't want this work now and need it worse now than we ever have before. We appreciate anything you can do for us.

Senator COCHRAN. We certainly appreciate the strong interests in each State for the project and the importance of it to this area. I wanted to compliment you all on an excellent presentation to our committee. It is very illustrative and I think it is going to carry great weight with the members of this committee.

Mr. DUGGAN. Let's hope so.

PREPARED STATEMENTS

Mr. PRESTRIDGE. Mr. Chairman, with your permission, I would like to introduce my written statement together with letters from various chambers of commerce along the Red River.

Senator COCHRAN. We appreciate that, Mr. Prestridge, and appreciate your being here. Those statements and any additional statements you have will be included in the record.

[The statements follow:]

STATEMENT OF R.M. PRESTRIDGE, PRESIDENT, BOSSIER CHAMBER OF COMEMRCE, AND COMMISSIONER, CADDO-BOSSIER PORT COMMISSION

Mr. Chairman, members of the committee, we are here today for two very good reasons. The first reason is, and probably the most important, is the fact that the Red River navigation project is a good, viable, cost-effective project. The second reason is, we in the four-State area of the Red River desperately need this project for our economic growth and security.

I am pleased to come before you today representing the chambers of commerce from the mouth of the Red River to its northernmost reach. And, Mr. Chairman, with your permission, I would like to file into the record the letters from the various chambers of commerce being represented here today. It is our sincere belief that the cost-benefit ratio that has been provided to the Congress is grossly understated.

We know the tremendous economic benefits that are going to be derived from navigation on the Red River, not to speak of bank stabilization, source of drinking water, and most of all, the quality of life that will be added to our communities as a result of the recreational areas that will be created along the river. We in Louisiana have made substantial investments in anticipation of the completion of this project, and the Caddo-Bossier Parish area alone, with State and local funds, we have invested some $4.5 million in the acquisition of land for an industrial park and port facility. We anticipate an investment of much more once navigation on the river reaches our area, and I am certain that the communities north of us will anticipate similar investments once the navigation project is extended to Arkansas, Oklahoma, and Texas.

The city of Alexandria has also made a sizeable investment in excess of $2 million to this point, with public funds and a considerable investment of the private sector in developing its industrial park and economic area. We are certain that Nacogdoches and other communities along the river will follow suit once the navigation project is a reality. We come today not asking for special treatment or special favors, but asking that you give us the opportunity to show you that the Red River project is worthy of the investment that you make.

Thank you very much.

LETTER FROM JOHN M. STROUD, EXECUTIVE VICE PRESIDENT, GREATER ALEXANDRIA/PINEVILLE CHAMBER OF COMMERCE

MARCH 24, 1986.

Mr. R.M. PRESTRIDGE,
President,
Bossier City, LA

DEAR MR. PRESTRIDGE: The Red River project has not only provided economic benefits to our region, State, and Nation, but has provided confidence and faith to a region that has one of the highest unemployment rates in the Nation.

You have the economic benefits of the project as provided by the commission so I will not detail those here.

The city of Alexandria has spent $3.5 million for the construction of an industrial park adjacent to the future Port of Alexandria. Because of the port, a 700-acre private development is underway. An estimated $10 million will be spent to make this project successful.

The Port of Alexandria is underway with fill work almost completed with an investment of $2,309,000 by the Red River Commission and an additional private investment of $600,000 in adjacent property. The port, when complete, will require an additional investment of $11 million. A marketing study will be complete by LSU within 2 months at a cost of $30,000. Work on the first phase of the port will be $2.5 million. A port authority will be created to complete the project and insure its success.

Our small community, as you can see, has and is investing millions of dollars in this project at a time when local revenues are small. Our faith in the completion of this project is the major reason for this investment. Without completion of this project to Shreveport, the investment will not be realized.

We wish you success and if I can help in any way, please do not hesitate to call.

Sincerely,

JOHN M. STROUD,
Executive Vice President.

LETTER FROM MIKE HARMON, EXECUTIVE VICE PRESIDENT, DURANT (OK) CHAMBER OF COMMERCE

APRIL 7, 1986.

Mr. R.M. PRESTRIDGE,
President,
Bossier Chamber of Commerce,
Bossier City, LA

DEAR MR. PRESTRIDGE: The Durant Chamber of Commerce, Durant, OK, supports the continuing efforts of the Red River Valley Association in promoting water projects that will clean, control, and provide more beneficial uses of the Red River.

Funding for this project is crucial to continue the ongoing work of RRVA. We feel the cost-benefit ratio of the Red River Valley project meets the criteria for adequate funding and should receive necessary funds.

We are in support of the regional growth and development that occurs through the work of RRVA.

Sincerely,

MIKE HARMON,
Executive Vice President.

LETTER FROM CINDY BOCKMON, PRESIDENT, DANGERFIELD (TX) CHAMBER OF COMMERCE

APRIL 7, 1986.

R.M. PRESTRIDGE,
President,
Bossier City Chamber of Commerce,
Bossier City, LA

DEAR MR. PRESTRIDGE: I am writing this note in support of the Red River Waterway project. I feel that any stoppage of this project at this time would be detrimental to the area.

Sincerely,

CINDY BOCKMON.
President.

LETTER FROM MRS. WALTER C. JONES, EXECUTIVE VICE PRESIDENT, NATCHITOCHES (LA) AREA CHAMBER OF COMMERCE

APRIL 7, 1986.

Mr. R.M. PRESTRIDGE,
President,
Bossier City Chamber of Commerce,
Bossier City, LA

DEAR MR. PRESTRIDGE: We have learned of your planned trip to Washington, which is of great interest to Natchitoches.

The Red River Waterway navigation project is something our area has looked forward to for many years in hopes that someday its final destination will become a reality and river traffic will be a major topic of discussion.

Your efforts aimed at the prevention of total deletion of the Red River Waterway projects is wholeheartedly supported by the Natchitoches Area Chamber of Commerce. We feel completion of the project would have a terrific economic impact on the entire north Louisiana area and the thought of having the project abandoned should be unthinkable.

On behalf of President Pat S. Todd and the board of directors of Natchitoches Area Chamber of Commerce, please accept our appreciation for being a champion of the Red River Waterway navigation project, a No. 1 priority.

Sincerely,

BETTY (MRS. WALTER C.) JONES,
Executive Vice President.

LETTER FROM ALLEN L. CRUNKILTON, MANAGER, COUSHATTA-RED RIVER CHAMBER OF COMMERCE

MARCH 24, 1986.

Mr. R.M. PRESTRIDGE,
President,
Bossier Chamber of Commerce,
Bossier City, LA

DEAR MR. PRESTRIDGE: This is in response to your letter concerning your trip to Washington with the RRVA to testify before the Senate and House Subcommittees.

We do not have any specific facts or figures you can quote as to the value of this project to our area. We know that it will bring improvement to our area economy during and long after the construction is completed. We will receive spinoff benefits from the increases it brings to Shreveport and Bossier area and, of course, we will always be alert for ways to develop an economy around the existence of the active waterway. The recreational facilities will be an immediate benefit to us and an attraction of new business to come to our parish.

Please tell our leaders that we need this waterway development completed on schedule. To stop at this point would make complete waste of money already spent, but to complete this project opens new vistas of development and economic growth.

Thank you for this opportunity to respond. Good luck on your trip.

Sincerely,

ALLEN L. CRUNKILTON,
Manager.

LETTER FROM ROBERT E. "SWEDE" LEE, EXECUTIVE VICE PRESIDENT, TEXARKANA CHAMBER OF COMMERCE

MARCH 25, 1986.

Mr. R.M. PRESTRIDGE,
President,
Bossier Chamber of Commerce,
Bossier City, LA

DEAR MR. PRESTRIDGE: Thank you for your solicitation of Texarkana's position regarding the continued orderly development of Red River. Texarkanas and, in fact, the State of Arkansas, have always been, and will continue to be, strong proponents of bank stabilization and navigation of the Red River, at least as far upriver as Index Bridge.

This chamber certainly supports the current administration and the Congress in their efforts to balance the budget and reduce the Federal deficit. However, we believe that, with the exception of defense-related costs that are necessary for national defense, the cuts in expenditures should be equally distributed. I am quite surprised to learn that 19 new construction starts have been made in water projects simultaneous with a proposed 60 percent cut in funding for the Red River.

As you testify before the Senate and House Committees, be assured you have the full support and concurrence of the Texarkana Chamber of Commerce in requesting continued and uninterrupted financing to complete all locks and dams, bank stabilization, and channel realignments necessary to make the Red River navigable from Index Bridge at Fulton, AR, to the Mississippi River. We also feel full funding should be made for this project until its completion and that cuts in water development projects should be achieved by delaying construction on new projects. In the event this is not feasible, we would support a position that funding for the Red River project should not be reduced by more than 9 percent.

If you need any additional information, please feel free to call on me. I will be happy to contact, at your direction, any members of the Arkansas or Texas delegations regarding this problem.

Sincerely yours,

ROBERT E. "SWEDE" LEE,
Executive Vice President.

STATEMENT OF THE TEXAS WATER DEVELOPMENT BOARD

Responsibility for statewide planning and development of water resources rests with the Texas Water Development Board. The Board also provides financial assistance to eligible political subdivisions by the State for the planning and construction of water, wastewater treatment, and flood-control projects. The Board has been designated as the State agency to cooperate with appropriate agencies of the Federal government and with other State and local agencies in matters relating to water resource development. In order to assure orderly development of the State's water resources, the Board has formulated and adopted a comprehensive Statewide "Texas Water Plan", which under Texas statutes serves as a flexible guide for present and future water development in Texas.

The plan indicates the need for specific projects, including alternatives, to meet the State's water needs and to provide National, State, and regional economic growth and stability. The Water Development Board maintains a continuing planning program in order to address changing economic, social, hydrologic, and environmental conditions in the State. The projects included in this statement are considered as integral elements in the State's present and future water resource development program.

RED RIVER BASIN CHLORIDE CONTROL PROJECT

The Red River Basin Chloride Control project, directed toward the improvement and preservation of water quality in the States of Texas, Oklahoma, Louisiana, and Arkansas, is imperative in order to realize full utilization of these surface-water supplies. Presently, more than 1,000 miles of streams in the river basin are severely contaminated by natural brines. Consequently, waters of the streams are not suitable for municipal and most industrial and agricultural purposes. Large volumes of salt enter the streams from 15 natural sources, 10 of which are located in Texas. There exists an immediate need for good quality water within and to the west of the areas of natural salt pollution, as well as a long-term need downstream in the eastern part of the Red River Basin.

Passage of the 1966 and 1970 Flood Control Acts (P.L. 89-789 and P.L. 91-611) authorized construction of measures to control the natural salt pollution from Areas VI, VII, VIII, IX, X, XIII, XIV, and XV in the basin, subject to the provision that construction on the project could not be started until approved by the Secretary of the Army. Initiation of construction at Area VIII on the Wichita River prior to the required approval by the Secretary of the Army, was authorized by the 1974 Water Resources Act. Construction at Area VIII, which includes the Truscott Brine Lake, was begun in February 1977 and is nearing completion. With the exception of Area VIII, construction at the remaining seven areas and two brine lakes of the Red River Chloride Control project is awaiting approval by the Secretary. It is our understanding the Secretary is delaying approval pending a commitment of up-front financing from the states involved in the overall project.

Congress authorized construction of the entire Red River Chloride Control project to control natural brine sources as a 100 percent federal project (P.L. 89-789 and P.L. 91-611). Subsequently, the components of the overall project were re-evaluated by the Corps of Engineers, at the request of Congress, and the results of the re-evaluation have been reported in the Corps' "Supplemental Data to Arkansas-Red Basin Chloride Control, Red River Basin Design Memorandum No. 25, General Design, Phase I-Plan Formulation", Vols. I and II, Department of the Army, Tulsa District Corps of Engineers, Oklahoma, November 1980. The re-evaluation reaffirmed both the economic and technical feasibility of this project. According to our information, the Secretary of the Army has not reached the necessary decisions regarding this project and has not forwarded the findings and project reaffirmation onward for ultimate Congressional action.

We strongly urge that Congress request the Secretary of the Army to forward the report and his recommendation on this project to the Office of Management and Budget, and to Congress, in accordance with the provisions of the project's authorizing legislation.

LAKE WICHITA, HOLLIDAY CREEK

Lake Wichita was constructed on Holliday Creek by the City of Wichita Falls, Texas, in 1901. The dam and spillway, which provides partial flood protection for highly developed urban areas of the City of Wichita Falls, has deteriorated badly and the spillway capacity is inadequate to handle floods which occur in the Holliday Creek watershed. Further, the dam has been assigned a high hazard classification by the Corps under the National Dam Safety Program and has been declared unsafe by both the Corps and the State of Texas. In response to Congressional resolution and studies authorized by the Chief of Engineers, the Corps has completed studies and has recommended a plan to meet the flood control needs of the area which includes replacement of the existing Lake Wichita Dam and enlargement of the channel downstream of the dam. Additionally, feasibility studies of McGrath Creek flood control improvements were requested by the City of Wichita Falls. These studies were completed as part of the continuation of planning and engineering for Lake Wichita-Holliday Creek and a feasibility report has been forwarded to the Office of the Chief of Engineers for review. The City of Wichita Falls strongly supports the project and will assume all non-federal responsibilities.

The President's budget recommends $700,000 be provided to initiate construction of the Lake Wichita-Holliday Creek project during FY 1987. The Texas Water Development Board strongly supports authorization of the project and appropriation to the full extent of the President's budget for FY 1987 and continuation of the McGrath Creek studies.

COOPER LAKE AND CHANNELS, TEXAS

The Cooper Lake and Channels Project, located in the Sulphur River Basin upstream of Lake Wright Patman in the State of Texas, was authorized by Public Law 218 of the 84th Congress. In addition to providing 273,000 acre-feet of water conservation storage space, the reservoir will allow sufficient storage for basin-wide flood protection to convert 120,000 acre-feet of flood control space in Lake Wright Patman into water supply storage for the Texarkana water demand area.

The Water Development Board appreciates the consideration the committee has allowed the project in the past. Cooper Lake and Channels has been subjected to lengthy delays, due in large part in recent years to litigation under the National Environmental Policy Act and subsequent alleged inadequacies in the Environmental Impact Statement. That litigation has now been resolved. Completion of Cooper Lake is essential to meet existing and future water needs of the Sulphur River Municipal Water District, City of Irving, Texas, and the North Texas Municipal Water District. The North Texas Municipal Water District membership includes 11 cities in the rapidly-expanding urban area of more than 530,000 residents in a 1,600 square-mile area to the north and east of Dallas. The District serves 44 other entities, including 17 customer cities, rural water supply corporations, and municipal utility districts in the region. The District faces serious, short-term water supply problems unless construction of Cooper Lake is completed, since its total water supply is currently provided by one reservoir - Lake Lavon. This is considered one of the most critical water-supply problems in Texas.

This project is one of the most urgently-needed water resource projects in Texas. The Board strongly urges the Committee to appropriate the $3,700,000 requested in the President's budget for FY 87 to continue construction of Cooper Lake.

LITTLE CYPRESS CREEK

A study of the feasibility of improvements for flood control, water conservation, and other water-related purposes in the Cypress Creek Basin was undertaken by the Corps of Engineers in October, 1979 pursuant to a resolution adopted May 9, 1979 by the Committee on Public Works and Transportation, U.S. House of Representatives. This area of northeast Texas has experienced significant growth due to development and utilization of lignite resources within the area. The occurrence of economically recoverable lignite reserves in the region has delayed construction of at least one major Corps of Engineers reservoir project in the area, thus seriously affecting the availability of firm water supplies for this region.

The President's budget recommends $150,000 be appropriated to complete this study in FY 1987. The Board supports this request and urges that the Committee appropriate the amount of the President's budget for FY 1987 for this project.

RED RIVER WATERWAY PROJECT

The Rivers and Harbors Act of 1968 authorized the Red River Waterway Project featuring a navigation channel from the Mississippi River to Shreveport, Louisiana, and Daingerfield, Texas, and stabilization of the banks of the Red River from the Mississippi River to Shreveport, Louisiana; Shreveport, Louisiana to Daingerfield, Texas; Shreveport, Louisiana to Index, Arkansas, and vicinity of Index, Arkansas to Denison Dam, Texas. Construction under this authorization has been initiated in the Mississippi River to Shreveport, Louisiana reach.

Completion of the Red River Waterway will significantly boost the economy throughout the river basin and reduce widespread unemployment of the area. Therefore, the Board supports the resumption of preconstruction planning of the waterway segment from Shreveport, Louisiana to Daingerfield, Texas and urges the Committee the appropriate $100,000 for this purpose in FY 1987.

OPERATION AND MAINTENANCE OF EXISTING PROJECTS

The Board supports appropriations to the Corps of Engineers for operation and maintenance of the following projects during FY 1987. Arkansas-Red River Basin Chloride Control, Area VIII ($461,000); Denison Dam, Lake Texoma ($4,304,000); Ferrells Bridge Dam-Lake O'the Pines ($1,606,000); Lake Kemp ($135,000); Pat Mayse Lake ($801,000); and Wright Patman Lake ($1,563,000).

CONCLUDING COMMENTS

The Texas Water Development Board requests Committee support of the Red and Sulphur River Basins and Cypress Creek Basin water resource development efforts. The Board most respectfully urges the appropriation of funds as requested in order to accomplish the coordinated, orderly development of vitally-needed water resource projects in the Red and Sulphur River Basins and the Cypress Creek Basin in the State of Texas.

STATEMENT OF THE OFFICE OF PUBLIC WORKS, LOUISIANA DEPARTMENT OF TRANSPORTATION AND DEVELOPMENT

The Louisiana Department of Transportation and Development, Office of Public Works is the agency designated to represent the State of Louisiana for the coordinated planning and development of water resources including flood control, navigation, drainage, water conservation, and irrigation projects. Therefore, this statement is presented on behalf of the State of Louisiana. We are pleased to present the following endorsements and recommendations for Fiscal Year 1987 appropriations for Louisiana projects in the Red River Basin.

RECOMMENDED APPROPRIATIONS FOR RED RIVER BASIN PROJECTS
FISCAL YEAR 1986

LOUISIANA PROJECTS	BUDGET ALLOWANCE	LOUISIANA REQUEST
Construction		
Red River Emergency Bank Protection	$ -0-	See Commentary Below
Red River Levees & Bank Stabilization Below Denison Dam	-0-	See Commentary Below
Red River Waterway, Mississippi River to Shreveport	38,000,000	68,000,000
Aloha-Rigolette Area Red River, LA	-0-	7,200,000
Planning		
Red River Waterway, Shreveport, La. to Vicinity of Index, Ark.	-0-	520,000
Red River Waterway, Shreveport, La. to Dangerfield, Texas	-0-	100,000

Operation and Maintenance	Estimated Obligation	Louisiana Request
Bayou Bodcau Reservoir	$ 302,000	$ 302,000
Bayou Pierre	10,000	10,000
Caddo Lake	86,000	86,000
Red River Waterway, Mississippi River to Shreveport	2,262,000	2,262,000
Wallace Lake	136,000	136,000

NOTE: The projects listed above are only in Louisiana and directly affecting the State. We realize that there are others outside of Louisiana that are vitally important to the Basin and we endorse the recommendations of the Red River Valley Association.

RED RIVER EMERGENCY BANK PROTECTION
(Budget: $-0-) (Request: See Commentary Below)

RED RIVER LEVEES & BANK STABILIZATION BELOW DENISON DAM
(Budget: $-0-) (Request: See Commentary Below)

RED RIVER WATERWAY, MISSISSIPPI RIVER TO SHREVEPORT
(Budget: $38,000,000) (Request: $68,000.00)

The above three (3) projects comprise the only mechanism for controlling the last major river basin in the United States remaining to be developed. Both the Red River Waterway Project and the Red River Emergency Bank Protection Project were authorized by the River and Harbor Act of 1968; Red River Waterway

Project basically for navigation and the Red River Emergency Bank Protection basically for bank stabilization. The Red River Levees and Bank Stabilization Below Denison Dam project is an older project and is the only comprehensive flood control program on the Red River.

Over the past few years, the administration has required the U.S. Army, Corps of Engineers to systematically phase out the first two (2) of these projects in the state of Louisiana, leaving only the Red River Waterway Project funded in the state. The Corps has complied. There was no money appropriated for these two (2) projects last year and there is none budgeted this year and no capability to use any is shown by the Corps of Engineers. This was done because it was thought that many of objectives of these two (2) projects would be accomplished by construction of the third, the Red River Waterway Project.

The Administration, however, has now also decided that construction ont he Red River Waterway Project should not proceed beyond pool two (2) of the five (5) pool project. This leaves the reach of the river from Colfax, Louisiana to Shreveport, Louisiana without any operational or funded program for controlling and developing the river.

Thirteen (13) project locations for which we are requesting sufficient funding to implement continuing contracts have been identified. It is further requested that the language of the appropriations bill provide that funding remain available until completion of these projects. This will require thirty (30) million dollars more than what is in the President's budget for the Red River Waterway Project. It is requested that the names of the projects be included in the appropriations bill.

ALOHA-RIGOLETTE AREA, RED RIVER, LA
(Budget: -0-) (Request: $7,200,000)

This project, initially authorized in 1941 and constructed during the period of 1948-54, provides for the protection of some 58,000 acres of alluvial land during high states of the Red River. Drainage from 340,000 acres that must flow through protected areas during lower river stages is diposed of by gravity flow through 2 to 10 feet by 10 feet gated concrete drainage structures in the levee at the lower end of the project. The protected area has continued to flood and it has now been determined by the U.S. Army, Corps of Engineers, that six (6) additional gates are needed.

It is requested that $300,000 for continued engineering and planning and $6,900,000 for construction be appropriated for this project in Fiscal Year 1987.

NAME	FUNDING
Deloges Bluff Realignment	$ 2.5 million
St. Maurice Realignment	2.5 million
Cognac Revetment	2.5 million
Kadesh Realignment	2.5 million
Lock & Dam III, Phase 2C	2.0 million
Socot Realignment	3.0 million
Powhatten Realignment	3.0 million
Isle Au Vaches Realignment	3.0 million
Carroll Realignment	3.0 million
Wilkerson Point Realignment	3.0 million
Lumbra Revetment	1.0 million
Campti Realignment	1.0 million
Smith Island Realignment	1.0 million
TOTAL	$30.0 million

If the above projects cannot be funded under the Red River Waterway project, then they should be funded under the more appropriate of the other projects.

RED RIVER WATERWAY, SHREVEPORT, LA. TO VICINITY OF INDEX, ARK.
(Budget: $-0-) (Request: $520,000)

The Red River Waterway, Shreveport to Index reach is an important part of the authorized project. We urge that the $520,000 be appropriated to continue planning in this area.

RED RIVER WATERWAY, SHREVEPORT, LA. TO DANGERFIELD, TEXAS
(Budget: $-0-) (Request: $100,000)

Similarly, the Red River Waterway, Shreveport to Dangerfield reach is an important part of the authorized project. We urge that $100,000 be appropriated to continue planning in this area.

The State of Louisiana, its Office of Public Works, in particular, wishes to commend the Appropriations Sub-Committees on Energy and Water Development and express our appreciation for the foresight and understanding exhibited in the past of the need for authorizing adequate levels of appropriations for water resources projects which are vital to the national interest. We solicit your further consideration of the recommendations presented herein.

Mississippi River Navigation Projects

STATEMENT OF HERBERT R. HAAR, JR., ASSISTANT EXECUTIVE PORT DIRECTOR, PORT OF NEW ORLEANS

ACCOMPANIED BY:

SAM GIALLANZA, CONSULTANT, NEW ORLEANS STEAMSHIP ASSOCIATION

JACQUES B. MICHELL, PRESIDENT, ASSOCIATED BRANCH PILOTS FOR THE PORT OF NEW ORLEANS

Senator COCHRAN. We have one final agenda item, Mr. Herbert R. Harr, who is representing the Port of New Orleans; Mr. Channing Hayden, New Orleans Steamship Association; and Sam Giallanza, consultant, New Orleans Steamship Association, to present testimony concerning the Mississippi River and navigation projects.

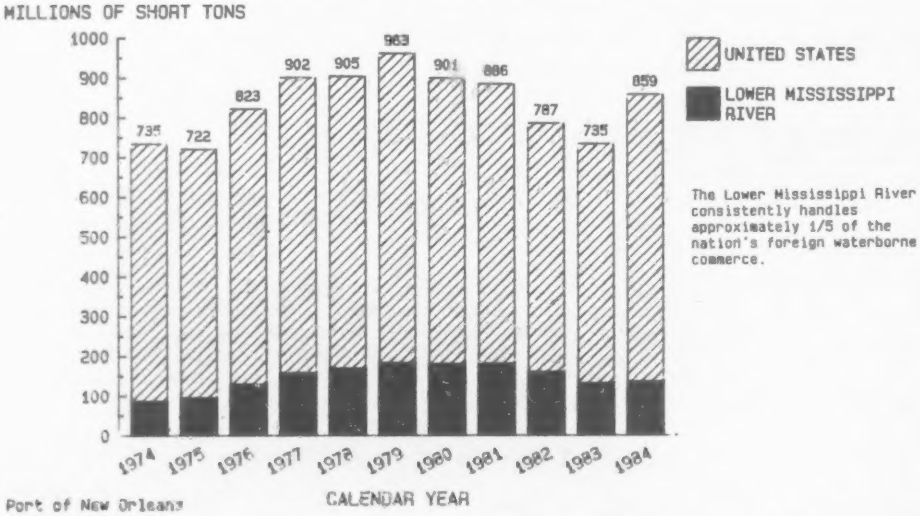
Please come forward, gentlemen. We have time for about 5 minutes of testimony.

Mr. HAAR. Mr. Chairman, I am Herbert R. Haar, assistant executive port director of the Port of New Orleans. I am here to testify on the efforts of commissioners of the Port of New Orleans, a unit of local government in the State of Louisiana, on projects of vital interest to the development of Louisiana and neighboring States, in mid-gulf States and the Nation as a whole.

NATIONAL WATERBORNE COMMERCE

In the interest of time, Mr. Chairman, I will submit my statement, if I may, for the record and just give you an abbreviated summary using some graphs. The things I am testifying on basically involve the navigation and the development of navigation on the lower Mississippi River and the Mississippi gulf. If you will look at this little booklet that I have provided, and starting on page 2, I want to just stress some of the national economic benefits of the Mississippi River.

UNITED STATES AND LOWER MISSISSIPPI RIVER
FOREIGN WATERBORNE COMMERCE
CALENDAR YEARS 1974 - 1984



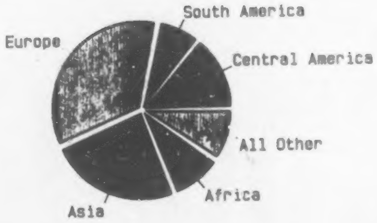
The Lower Mississippi River consistently handles approximately 1/5 of the nation's foreign waterborne commerce.

Port of New Orleans
Marketing Division
April 3, 1986

SOURCE: U.S. Department of Commerce

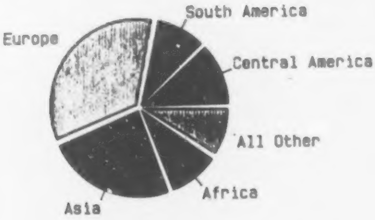
On the charts you will notice in red on the bar graphs, the tonnage over the years that have moved, the water commerce on the lower river. You will notice the little note on the right-hand side that says that the Lower Mississippi River consistently handled approximately one-fifth of the Nation's water-borne commerce.

LOWER MISSISSIPPI RIVER
FOREIGN WATERBORNE COMMERCE
CALENDAR YEAR 1984



Tonnage**
By World Area

PRINCIPAL COUNTRIES:	
JAPAN	16,231
Netherlands	10,794
Soviet Union	9,898
Mexico	7,595
Venezuela	4,710
All Other Countries	87,082
TOTAL	136,303



Dollar Value***
By World Area

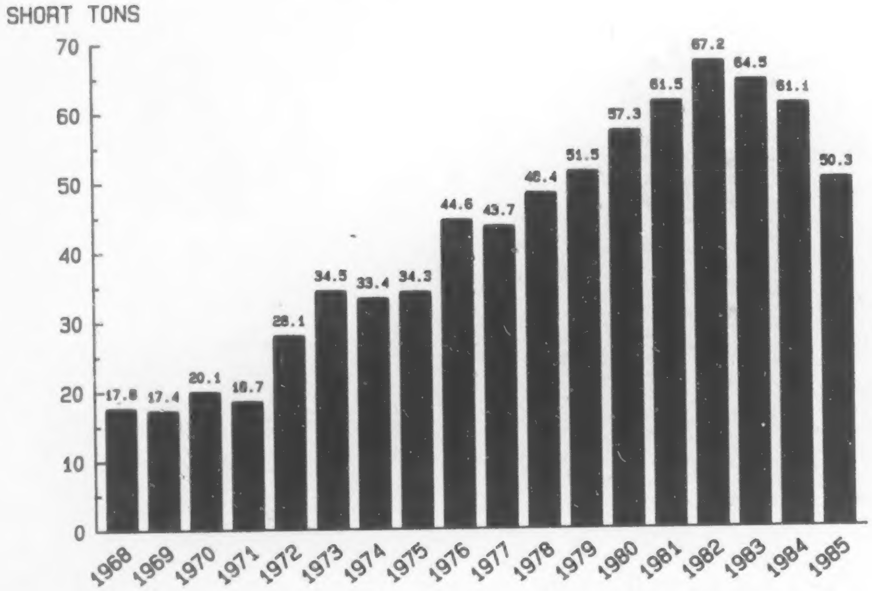
PRINCIPAL COUNTRIES:		
Japan	$	2,977
Netherlands		2,251
Soviet Union		1,382
Mexico		1,219
United Kingdom		1,069
All Other Countries		18,916
TOTAL	$	27,814

*Includes Mexico and the Caribbean
**Thousands of short tons
***Millions of dollars

SOURCE: U. S. Departmemt of Commerce

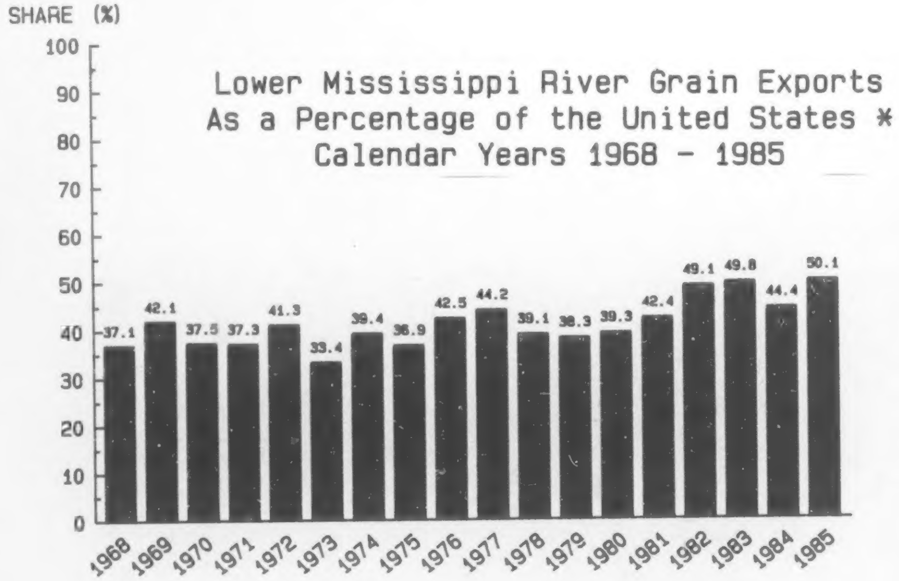
If you will go to the next chart, sir, you will see that the total foreign commerce on that river is about 136 million tons a year, with a value, as you see on the right-hand bottom side, of over $27 billion.

Lower Mississippi River Grain Exports
In Millions of Short Tons
Calendar Years 1968 - 1985



Port of New Orleans
Marketing Division
SOURCE: USDA (converted from bushels to tons)

NOTE: The Lower Mississippi River is the major geographical area for U. S. grain exports.



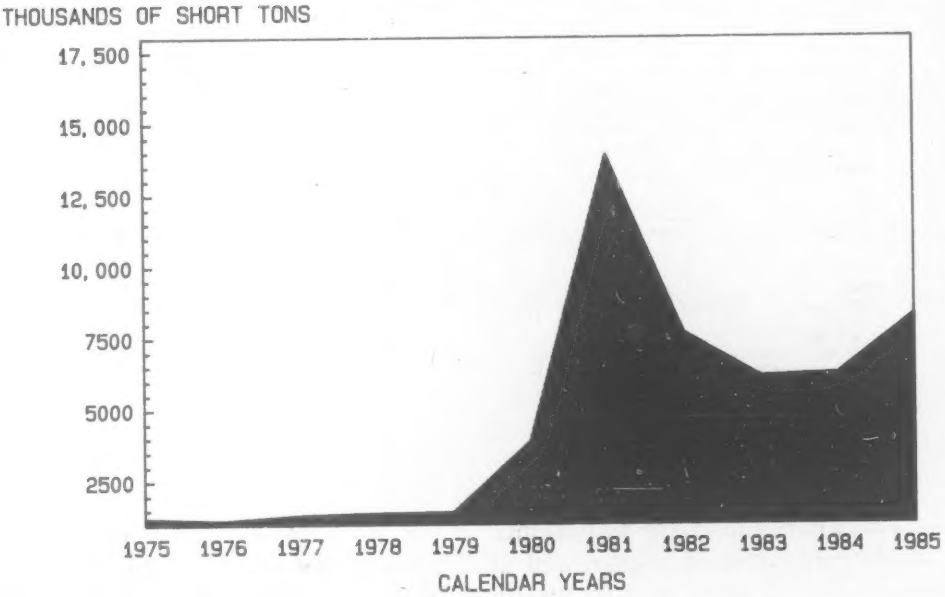
Lower Mississippi River Grain Exports
As a Percentage of the United States *
Calendar Years 1968 - 1985

* Market Share Based on Bushels

Port of New Orleans
Marketing Division

SOURCE: U.S. Department of Agriculture

Lower Mississippi River
Oceangoing Bituminous Coal Shipments
1975 - 1985



Marketing Division
Port of New Orleans

SOURCE: U. S. Department of Commerce ('75-'83)
Miss.Valley Coal Exp. Council ('84-'85)

If you skip to the chart showing lower Mississippi River grain exports, you will see that about half of the Nation's grain is exported from the lower Mississippi River; and if you look at chart 7, you will see that the coal shipments that go out of the lower Mississippi River are significant and have been increasing during the past year, once again, up in the neighborhood of over 7.5 million tons.

The Lower Mississippi River:
Mid-America's Gateway to the World

LMR Grain Exports: Principal Sources

Alabama
Arkansas
Illinois
Indiana
Iowa
Kansas
Kentucky
Minnesota
Mississippi
Missouri
Nebraska
North Dakota
Ohio
Oklahoma
South Dakota
Tennessee
Wisconsin

IMPACT OF A 45 FOOT DEEP
MISSISSIPPI RIVER CHANNEL TO MILE 181 A.H.P.

COST:
-$30.0 million initially. $23.5 million annually

BENEFITS:
-$67 million annual transportation savings
-commodity cost savings range $1.32-$2.96/ton

30% of the vessels on the LMR are light-loaded due to existing project draft limits.

LMR Coal Exports: Principal Sources

Alabama
Indiana
Illinois
Kentucky
Pennsylvania
Tennessee
West Virginia

IMPACT OF A 50 FOOT DEEP
MISSISSIPPI RIVER CHANNEL TO MILE 181 A.H.P.

COST:
-$107.2 million initially. $40 million annually

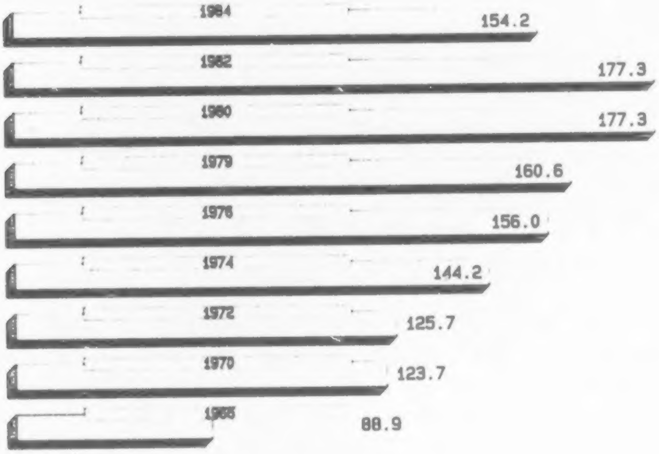
BENEFITS:
-$84 million annual transportation savings
-commodity cost savings range $1.09-$3.11/ton

24% of all oceangoing cargo would benefit from a deeper channel.

This chart shows the importance of the lower Mississippi River to the whole mid-America region, and all the states that are involved with the grain exports going out of the lower river are shown on the left-hand side of that table, and on the right-hand side you see coal exporting states that ship their coal out of the lower Mississippi River. On the bottom left, you see the tremendous economic advantages of deepening the lower Mississippi River, which is an item requesting the 45 feet and the tremendous annual transportation savings as a result of that.

PORT OF NEW ORLEANS
TOTAL WATERBORNE COMMERCE *
CALENDAR YEARS 1965 - 1984

IN SHORT TONS



*Includes domestic & foreign movements.

SOURCE: U. S. Army Corps of Engineers

The U.S.Army Corps of Engineers defines the Port of New Orleans from mile marker 127 to the mouth of the passes.

Our final chart shows the tremendous total of water-borne commerce that is handled by the Port of New Orleans, and you see the latest year record. That is 154 million tons a year.

Mr. Chairman, kind of concluding all this, showing that tremendous economic significance and importance of the Lower Mississippi River, I just want to go to my summary statement and mention specific projects that relate to enhancing and maintaining this tremendous national resource that we have.

FUNDING REQUEST

On the Mississippi River, Baton Rouge to the gulf, we recommend, for the deepening of that river to 45 feet, $9 million which is in the President's budget. The second item we are recommending is on the maintenance dredging of that lower river from Baton Rouge to the gulf, not only the approximate $33 million in the President's budget, but an additional $6,430,000. That is, of course, capability to add to that to bring it up to $39,655,000, because it can deepen the Mississippi River by the end of this calendar year in 1986 to 45 feet, and those moneys will be required for the balance of fiscal year 1987 to handle that increased maintenance dredging requirement.

For the Mississippi River-gulf outlet, we are recommending what is in the President's budget, the $6,140,000; Mississippi River, Baton Rouge to the gulf—bank nourishment, we have had a tremendous problem with the leaking of water out of the sides of Southwest Pass. That increased cost of maintenance dredging is to endorse the $19.4 million in the budget for making improvements on these training works and $9 million additional to be added to that because of a multiple $100 million backlog on this, and for a new ship lock, we recommend $42 million to continue studies on that vital project.

Then for the Mississippi River outlets at Venice, LA, we recommend $2.25 million to continue the maintenance on that. On the Gulf Intracoastal Waterway for the general investigation funding on the segment from New Orleans to Brownsville, TX, we recommend $625,000.

Senator COCHRAN. Thank you very much, Mr. Haar.

PREPARED STATEMENTS

I regret that I am not going to be able to remain because of a vote that is occurring on the floor of the Senate. The remaining statements of the other witnesses, Mr. Hayden——

Mr. HAAR. Mr. Giallanza pinchhitting for Mr. Hayden, who had a death in the family, and Jacques Michell, whose association brings the ships in over the mouth of the river.

Senator COCHRAN. I wish I could stay longer.

Mr. HAAR. We understand, Mr. Chairman, and if we may, we will put their statements in the record following my testimony.

Senator COCHRAN. That is exactly what I was going to say. We will put them in the record, and we appreciate your being here and cooperating with the committee. We will carefully review these, and they will be a part of the deliberations when we review this part of the budget request.

Thank you very much.

Mr. HAAR. Thank you very much.

[The statements follow:]

STATEMENT OF THE BOARD OF COMMISSIONERS, PORT OF NEW ORLEANS

Summary of testimony of the Board of Commissioners of the Port of New Orleans by Herbert R. Haar, Jr., Assistant Executive Port Director, before the Senate Appropriations Subcommittee on Energy and Water Development on Tuesday, April 15, 1986, in reference to the following projects:

1. MISSISSIPPI RIVER SHIP CHANNEL, GULF TO BATON ROUGE, LA.
   We recommend that this deepening project be expedited in order to hasten receipt of enormous benefits that will materialize. We recommend that Congress appropriate $9,000,000 under Construction, General. This amount in the Administration's FY 87 proposed budget is the same as the Corps' capability and will allow completion of a 45 foot deep channel from the Gulf to New Orleans.
2. MISSISSIPPI RIVER, BATON ROUGE TO THE GULF, MAINTENANCE DREDGING, STABILIZATION
   We urge that Congress appropriate $33,225,000 under O&M General, the amount in the President's budget, and an additional $6,430,000 to equal the total Corps' capability of $39,655,000 required to maintain a 45 foot channel.
3. MISSISSIPPI RIVER-GULF OUTLET (MR-GO), LA., MAINTENANCE DREDGING
   We recommend Congress to authorize the full capability of $6.14 million, the same amount as contained in the Administration's FY 87 Budget.
4. MISSISSIPPI RIVER, BATON ROUGE TO GULF OF MEXICO, LA., BANK NOURISHMENT
   Continued improvement of structures comprising the training works of Southwest Pass could well decrease annual maintenance costs. We endorse the $19.4 million in construction funds included in the Administration's FY 87 Budget for continuing the design and construction of these critical projects; plus, we urge an additional $9.0 million to match the Corps' full capability so as to expedite the completion of these vital works.
5. MISSISSIPPI RIVER-GULF OUTLET, LA., NEW SHIP LOCK
   The $2.0 million construction funds proposed for the New Ship Lock are essential to the completion of lock reevaluation studies and initiation of general design studies. This amount matches the Corps' capability.
6. MISSISSIPPI RIVER OUTLETS AT VENICE, LA.
   This project is essentially complete. We recommend the Administration's proposed $2,252,000 equal to the Corps' capability for continued maintenance of these critical east-west navigational channels.
7. GULF INTRACOASTAL WATERWAY, LOUISIANA & TEXAS SECTION
   We urge continuation of general investigation funding in the amount of $625,000 to determine the advisability of deepening and widening project segment from New Orleans to Brownsville, Texas.

Mr. Chairman:

I am Herbert R. Haar, Jr., Assistant Executive Port Director of the Port of New Orleans. I am here to testify on behalf of the Board of Commissioners of the Port of New Orleans, a unit of local government of the State of Louisiana, on projects of vital interest to the development of Louisiana and neighboring Gulf States, the Mid-America States, and the Nation as a whole.

As this testimony was being prepared, we in the Lower Mississippi River regional port complex have watched with great anxiety the debates in the House and Senate concerning the issues confronting the future development of the nation's water resources. Compounding the problem of reaching accord on the issues of cost-sharing, capital funding, cargo diversion, local-share reimbursements, and others are the broader ones of mounting budget deficits and the continuing enormous trade inbalances. Throughout the port industry, the years 1985 - 1986 represent a major milestone in the resolution of conflicting interests hindering the continuing development of our U.S. port and supporting inland navigation systems. The time has come for all of us to jointly address the needs of this nation's foreign waterborne commerce.

In the past 20 years, foreign trade as a proportion of the United States Gross National Product has increased substantially from 5.4 percent in 1960 to 10 percent in 1974, and to approximately 25 percent in 1983. In fact, foreign trade has been and is today a sustaining force behind our country's growth.

Today that trade is as vital to the well-being of our country as it was in the early formative years. With 21 percent of the nation's foreign waterborne commerce passing through the ports of Louisiana, the State of Louisiana, has had a profound influence on employment, plant construction, and access to worldwide marketplaces.

When it comes to markets --- access to foreign markets coupled with minimum transportation costs --- that is where our Louisiana ports do have an advantage. In order to handle the waterborne commerce, hundreds of barge lines serve our nation's inland waterways. In the Lower Mississippi River region over 100,000 barges pass through the port annually, handling the waterborne commerce of the area. To carry the cargo between New Orleans and its trading partners throughout the world --- serving, for example, more than 150 countries --- approximately 4,100 vessels operated by more than 100 steamship lines call at the port in a year's time. These trading partners and percentage of trade are Europe (37%), Asia (29%), Africa (14%), Central America (11%) and South America (8%). According to Lloyd's MARAD Data Services' reports for the first 6 months of 1985, New Orleans and the Lower Mississippi River region ports led all U.S. seaports in dry bulk vessel arrivals with 1,173. The port complex was third, behind Houston and New York, in tanker arrivals with 733.

It is undeniable that the New Orleans area plays a vital role in the international commerce of this nation. In 1984, the lower Mississippi River (Baton Rouge to the Gulf of Mexico) handled 136 million tons of foreign waterborne commerce. Worth $28 billion, this cargo represented 16% of the nation's international waterborne trade. Bulk cargo accounted for 94% of this volume, primarily the result of tremendous grain and animal feed exports and petroleum imports. More specifically, over 2.0 billion bushels of grain coming from 17 states and representing 44.4% of all U.S. grain exports entered the world market via the eleven grain elevators and midstream transfer capabilities on the lower Mississippi River. This same port complex received 14 million tons of crude petroleum in 1984, 8% of the U.S. waterborne imports of that commodity.

Also in 1984, the Port of New Orleans handled 43.9 million tons of foreign cargo worth $13.1 billion (included in lower Mississippi River statistics). Of this amount, general cargo tonnage totalled 7.8 million tons (major commodities: iron and steel products, rice, paper products, coffee and crude rubber). Although the volume of bulk cargo statistically dwarfs the amount of general cargo handled, the significance of the port in the movement of general cargo should not be overlooked. The Port of New Orleans consistently ranks in the top five general cargo ports in the country. Furthermore, per ton, general cargo is very valuable to the community as it produces a greater economic benefit than does bulk cargo.

While the port's foreign market is worldwide, its domestic market is primarily mid-America, the heartland of the United States. This heartland region currently produces 60% of the nation's agricultural products, ½ of all its manufactured goods, and 90% of the country's machinery and transportation equipment. Waterborne commerce from this region is projected to reach 900 million tons by the year 2000.

Essential to our national economy is the continued growth and development of the lower Mississippi River regional port complex. We strongly feel that this growth is being inhibited by the lack of an adequate deep-water channel of 55 foot depth required by the larger vessels presently engaged in world commerce. For example, executives of Toepfer International of Hamburg, Germany, reported to our visiting commissioners that the company transports three to five million tons of grain annually from the lower Mississippi. This quantity is out of a total of 50 million tons handled worldwide by Toepfer. Their vessels are Panamax, averaging 70,000 tons and, therefore, do not require more than 40 feet of water. However, the 40 feet must be guaranteed. Therefore, in view of annual silting of southwest pass, the port should provide a 45 foot channel in order to guarantee 40 feet year-round. They report that when negotiating prices because of springtime silting problems in the lower Mississippi, they quote about $10 - 11 per ton during April-May, compared to their normal quotation of $8.50 to $8.75.

Today, most major trading nations of the world have deep draft ports and are in the process of developing more. While only five percent of U.S. ports are deeper than 40 feet, 30 percent of Japan's ports are deeper than 40 feet. Similarly, 19 percent of Australia's ports and 16 percent of France's ports are deeper than 40 feet. A recent Booz-Allen & Hamilton, Inc. analysis concluded that of the total U.S. trade tonnage, 40 percent could use deeper draft ports. (Crude petroleum - 75%; grain - 26%; coal - 66%; etc.)

Mr. Chairman, for the reasons we have stated, we strongly urge that the Corps be funded to their full capability of $9,000,000 in Construction, General, for the Mississippi River Ship Channel, Gulf to Baton Rouge, Louisiana (55 foot channel). This amount will allow completion of a 45 foot deep channel from the Gulf to New Orleans and will provide an initial sharpening of our competitive edge in the world-wide grain and coal markets. (As you know, our state is working closely with the Army Corps of Engineers in the drafting of a Letter of Agreement for the cost-sharing provisions for this project.)

The Port of New Orleans continues in maintaining its position as one of the nation's largest ports with a total of foreign and domestic waterborne commerce tonnage of approximately 154 million tons while the Port of Baton Rouge, located 125 miles upriver, is the fifth port in the nation. Both port complexes are entirely dependent upon timely and adequate dredging of the Southwest Pass to provide access to the Gulf. Judging from past experiences with spring thaws bringing higher river stages and higher rates of siltation, we feel that the proposed budget of $33,225,000 is adequate but must be increased by the amount of $6,430,000 to $39,655,000 total required for maintaining the 45 foot channel after December 1986.

We are equally concerned with maintaining adequate depths and channel widths in the Mississippi River-Gulf Outlet Channel. In 1983, the waterborne commerce handled on the MRGO generated $239,140,000 in direct economic impact. Total (direct and indirect) economic impact of the MRGO in 1983 was $380,450,000. Although maintenance costs on this project cannot be related to any shoaling rate but more to severity and intensity of unpredictable Gulf storms, we believe that funding in the amount of the Corps full capability of $6,140,000 will be adequate and so recommend. Incidentally, in 1984 the 1,707 vessels calling on the MRGO Tidewater facilities accounted for 37% of the general cargo tonnage handled over public facilities at the Port of New Orleans.

The foreshore dikes, bank nourishment, and bulkhead features of the Mississippi River, Baton Rouge to Gulf of Mexico, project are vital to the navigation channel below Venice, Louisiana and in the Southwest Pass. We see a tremendous return on investment in the form of decreased maintenance costs and project depth reliability. For these reasons we urge an additional $9.0 million in construction funding over and above the $19.4 million contained in the Administration's Budget.

The $2.0 million construction funds proposed for the Mississippi River-Gulf Outlet, New Ship Lock project are also essential at this time for the continuation of the reevaluation studies.

The operation and maintenance features of the Mississippi River Outlets at Venice, Louisiana are fundamental in providing safe and essential offshore support access to energy-related industries. We strongly recommend that the $2,252,000 equal to the Corps' capability be approved for continued maintenance of these critical east-west navigation channels.

Finally, we urge continuation of general investigation funding to determine the advisability of deepening and widening that segment of the Gulf Intracoastal Waterway from New Orleans to Brownsville, Texas. The requested amount is $625,000. This study addresses our concerns over bank erosion, saltwater intrusion, and required improvements for the safety and efficiency of the waterway.

Mr. Chairman, this concludes my statement. Thank you.

SUPPLEMENTAL GRAPHICS

Prepared by

MARKETING DIVISION, PORT OF NEW ORLEANS

THE NATIONAL IMPACT OF THE U.S. SEAPORT INDUSTRY

The U.S. seaport industry has a tremendous impact on our national economy. In 1982 alone, it generated:

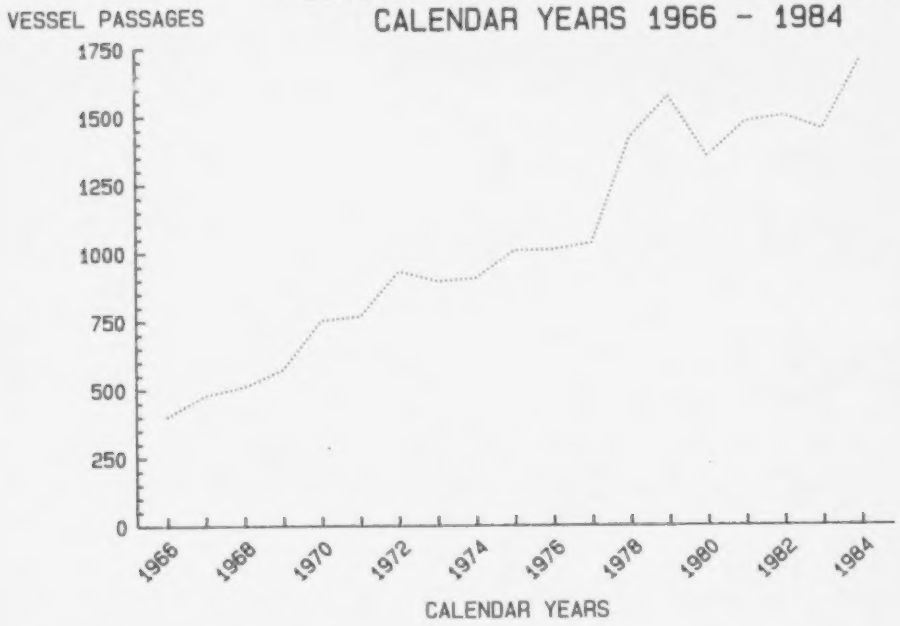
- more than one million jobs
- $70 billion in gross sales
- $35 billion of the Gross National Product
- $23 billion in personal income
- $10 billion in federal taxes
- $5 billion in state and local taxes
- $6.4 billion in customs revenues, and
- $1.5 billion towards the U.S. balance of payments.

The marine terminals that form the cornerstone of the U.S. seaport industry are almost totally the result of private sector and local port authority investment. In 1982, the cash value of these terminals was $59.6 billion with a replacement value of $78.3 billion.

Lower Mississippi River
Principal Commodities
Calendar Year 1984

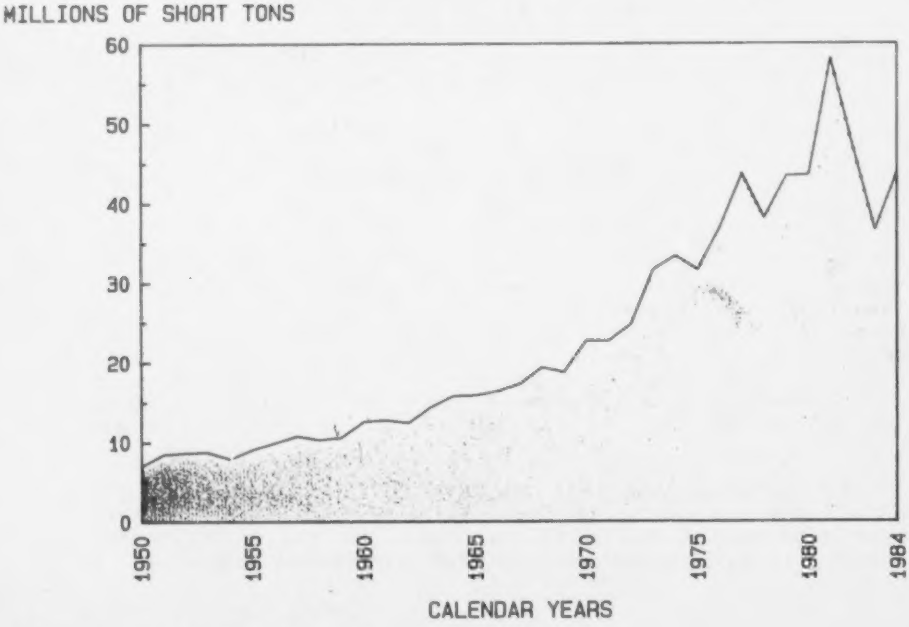
IMPORTS	39,702,000 Short Tons	EXPORTS	96,601,000 Short Tons
Crude Petroleum	13,783,000	Grains (unmilled)	64,176,000
Metalliferous Ores	6,894,000	Animal Feeds	10,794,000
Iron & Steel	4,440,000	Bituminous Coal	6,247,000
Lubricating Oils	3,151,000	Manufactured Fertilizers	2,530,000
Crude Minerals & Fertilizers	3,056,000	Coke, Pitch, Anthra Oil	1,811,000
All Others....................	8,378,000	All Others...................	11,043,000

PORT OF NEW ORLEANS VESSEL PASSAGES
MISSISSIPPI RIVER GULF OUTLET (MRGO)
CALENDAR YEARS 1966 - 1984



SOURCE: U. S. Army Corps of Engineers

PORT OF NEW ORLEANS
FOREIGN WATERBORNE COMMERCE
CALENDAR YEARS 1950 - 1984



* GENERAL AND BULK CARGO INCLUDED

STATISTICAL DATA

LOWER MISSISSIPPI RIVER

LENGTH:

2,350 miles from its starting point at Lake Itasca, Minnesota or 3,750 miles from the head waters of the Missouri River at Red Rock, Montana.

The Mississippi (including tributaries) is ranked as the third longest river in the world after the Nile which is 4,180 miles and the Amazon which is 3,912 miles long.

WATER SHED AREA:

1,244,000 square miles

The river drains 31 contiguous states in the United States and 2 provinces of Canada. This takes in 41% of the continuous land area of the United States.

AVERAGE DAILY FLOW:

460,000 cubic feet per second

This flow is equivalent to 297,000 million gallons per day.

AVERAGE VELOCITY:

3.1 miles per hour

SEDIMENT LOAD:

This load is equivalent to 138 million cubic yards per year. This yardage would fill the Louisiana Superdome in New Orleans 30 times or would cover a land area of 32 square miles to a height of 105 feet.

THE PORT OF NEW ORLEANS

In 1718 the explorer Bienville founded the city of New Orleans near the mouth of the mighty Mississippi River - 14,500 miles of navigable waterways which directly link more than twenty states to the markets of the world. Since that time, the city and the port have flourished. Today, more than 265 years later, the U. S. Army Corps of Engineers reports that the Port of New Orleans handles more waterborne commerce (foreign and domestic) than any other port in the United States (1983: 156 million tons).

It is undeniable that the New Orleans area plays a vital role in the international commerce of this nation. In 1984 the lower Mississippi River (Baton Rouge to the Gulf of Mexico) handled 136 million tons of foreign waterborne commerce. Worth

$28 billion, this cargo represented 16% of the nation's international waterborne trade. Bulk cargo accounted for 94% of this volume, primarily the result of tremendous grain and animal feed exports and petroleum imports. More specifically, over 2.0 billion bushels of grain or 44.4% of all U. S. grain exports entered the world market via the eleven grain elevators and midstream transfer capabilities on the lower Mississippi River. This same geographical area received 14 million tons of crude petroleum in 1984, 8% of the U. S. waterborne imports of this commodity. The Louisiana Offshore Oil Port (LOOP) also handles petroleum imports, via pipeline, to this region. Located 19 miles out in the Gulf of Mexico, LOOP is the nation's first and only deepwater port facility.

In addition to being vital to the international commerce of the nation, foreign trade through the Port of New Orleans has a direct impact on the local economy. The most recently published study reports that (1) more than 50% of the $10 billion worth of goods and services produced annually in the area are in some way dependent on oceangoing commerce; (2) over 100,000 jobs or 1/5 of the jobs in the area can be traced to port activity; and (3) 1/4 of the wages paid in the area can be linked to the port.

In 1984, the Port of New Orleans handled 43.9 million tons of foreign cargo worth $13.1 billion (included in lower Mississippi River statistics). Of this amount, general cargo tonnage totalled 7.8 million tons (major commodities: iron and steel products, rice, paper products, coffee and crude rubber). Although the volume of bulk cargo statistically dwarfs the amount of general cargo handled, the significance of the port in the movement of general cargo should not be overlooked. The Port of New Orleans consistently ranks in the top five general cargo ports in the country. Furthermore, per ton, general cargo is very valuable to the community as it produces a greater economic benefit than does bulk cargo.

In order to handle the waterborne commerce of the area, hundreds of barge lines serve the inland waterways and 100,000 barges pass through the port annually. To carry the cargo between New Orleans and its trading partners throughout the world (more than 150 countries) approximately 4100 vessels operated by more than 100 steamship lines call at the port in a year's time (major world areas: Europe 37% of the port's foreign tonnage, Asia 29%, Africa 14%, Central America 11%, and South America 8%).

While the port's foreign market is worldwide, its domestic market is primarily mid-America, the heartland of the United States. This region currently produces 60% of the nation's agricultural products, 1/2 of all its manufactured goods, and 90% of the country's machinery and transportation equipment. According to the 1979 Tipetts-Abbett-McCarthy-Stratton Mid-America Port Study, waterborne commerce from this region is projected to reach 900 million tons by the year 2000. To accommodate this and other areas of growth, the Port of New Orleans launched a $400 million, 30-year capital improvement program in 1970 (valued in 1970 dollars). Currently, construction and renovation dollars are being spent at the rate of $100,000 each working day for facilities in two major areas of the port. The first is the Mississippi River which has 12 miles of wharves that stretch along the waterfront, and the second is the tidewater area which is served by the Mississippi River-Gulf Outlet (35% of port's tonnage over public general cargo wharves is handled by facilities on the MR-GO).

In summary, the Port of New Orleans is a dynamic, growing port. In the 265 years since Bienville founded the city of New Orleans the port has experienced dramatic changes. One thing, however, has remained constant. The Port of New Orleans has always played and will continue to play a vital role in the local economy and in the international commerce of the United States.

STATEMENT OF NEW ORLEANS STEAMSHIP ASSOCIATION

1. Repairs to Jetties, Dikes and Maintenance Dredging of Southwest Pass and Maintenance Dredging of the Mississippi River from Baton Rouge to the Gulf and Construction of New Anchorage Area.

   The Lower Mississippi River, from the Gulf to Baton Rouge, ranks as a leading World Port. If the cargo-carrying capacities of vessels are again restricted by reduced entrance channel depths, this area will rapidly lose its world port status. This will have a detrimental effect on the National economy. The President's budget appropriation for FY 87 is $33.225 million. We urge that $39.655 million for Operation and Maintenance, General, Mississippi River, Baton Rouge to the Gulf, be appropriated. The $6.43 million over the President's Budget would be used for necessary channel dredging. We urge the approval of the $19.4 million in the President's Budget for construction and an additional $9 million to give the Corps its full capabilities to complete necessary bank nourishment projects.

2. Channel Deepening for Lower Mississippi River.

   A 55- foot channel is the competitive edge we need to compete in international trade because of the substantial cost reductions which will result for bulk cargoes carried on the lower Mississippi River. These cost reductions will allow American products to be more competitive in world markets. We recommend that the Corps' full capabilities of $9 million as included in the President's budget be appropriated to allow the completion of the 45-foot channel as a first step toward the construction of the 55-foot channel.

3. The Mississippi River-Gulf Outlet Maintenance Dredging.

   The number of vessels using the Mississippi River-Gulf Outlet has increased over the years. Located on this waterway are the Port of New Orleans' Bulk Handling Plant, most of the Port's container facilities, the ro-ro terminal and additional facilities under construction which provide newer cargo handling methods to accommodate the larger ships now serving international trade. It is recommended that the Corps' full capability of $6.14 million as included in the President's budget be appropriated for Mississippi River-Gulf Outlet, Operation and Maintenance, General.

4. The Mississippi River-Gulf Outlet, Construction, General.

   The planning and design for the urgently needed New Ship Lock continues. This lock, once in operation, will relieve existing hazardous congestion and costly delays to foreign commerce. It will promote the economic growth and development of water-oriented industries along the Mississippi River and the Mississippi River-Gulf Outlet, thus promoting the future growth of the Port area of New Orleans. It is urged that the Congress provide the $2 million as requested in the President's Budget for FY 87 to satisfy the Corps of Engineers' capability for the continuance of the lock design and related matters.

Mr. Chairman:

My name is Channing Hayden. I am Vice President of the New Orleans Steamship Association. Our membership of some 56 steamship owners, operators, agents and stevedores on the Lower Mississippi River is associated with hundreds of ship owners in international commerce.

My testimony concerns projects essential to the future of the Lower Mississippi River from Baton Rouge to the Gulf. These projects, listed below, impact the nation in jobs and our ability to compete in world markets. They should be funded as noted in our summary.

1. Repairs to jetties, dikes and maintenance dredging of Southwest Pass. Maintenance dredging of the Mississippi River from Baton Rouge to the Gulf. Enlargement and deepening of the Pilottown Anchorage.

2. Development of the Fifty-Five Foot Channel and completion of the Forty-Five Foot Channel for Lower Mississippi River.

3. Maintenance dredging of the Mississippi River-Gulf Outlet.

4. Continuation of the Design Program of the Mississippi River-Gulf Outlet New Ship Lock.

Repairs to the jetties and dikes and maintenance dredging of Southwest Pass is vital in keeping project draft. Project draft, in turn, ensures that the Mississippi River's deep water ports will continue to handle the country's foreign waterborne commerce in the most cost effective way possible.

In 1984 (most recent statistics available) the Lower Mississippi River handled 136 million tons of our country's foreign waterborne commerce. This represents a 41.6% increase over the last ten years. But, in the past, shoaling in Southwest Pass (see table below) has caused cargo diversion, adding millions of dollars in operating cost. The added cost has caused the loss of jobs in our area and made American products less competitive on the world market.

The table below shows the history of draft restrictions in Southwest Pass--the only deep draft entrance and exit to the Mississippi River.

History of Days During Which Vessels Were
Restricted to Less Than Project Depth at Southwest Pass

YEAR	VESSELS UNDER 100,000 DWT	VESSELS 100,000 DWT & OVER
1970	205 Days - 56.2%	205 Days - 56.2%
1971	139 Days - 38.1%	139 Days - 38.1%
1972	0 Days - 0.0%	0 Days - 0.0%
1973	278 Days - 76.2%	278 Days - 76.2%
1974	219 Days - 60.0%	259 Days - 70.9%
1975	157 Days - 43.0%	182 Days - 49.9%
1976	0 Days - 0.0%	120 Days - 32.9%
1977	0 Days - 0.0%	0 Days - 0.0%
1978	0 Days - 0.0%	97 Days - 26.6%
1979	94 Days - 25.8%	182 Days - 49.9%
1980	59 Days - 16.2%	254 Days - 69.6%
1981	0 Days - 0.0%	327 Days - 89.6%
1982	0 Days - 0.0%	152 Days - 41.6%
1983	71 Days - 19.5%	312 Days - 85.5%
1984	92 Days - 25.2%	131 Days - 35.9%
1985	51 Days - 14.0%	221 Days - 60.5%

The history from 1970 to 1985 shows that vessels over 100,000 deadweight tons (DWT) have had less than project draft 48.9% of the time. In the last five years (1981 to 1985) over 22,000 large vessels have called on the Lower Mississippi and have been restricted 62.5% of the time. In two of these years large vessels were restricted over 85% of the time. This year, 1986 (from January 1 to date), large vessels have already been restricted 37.1% of the 105 days--more than one-third of the time.

We studied four vessels of many that were affected in the current high-water period (1985-86). As a result of a loss of only 1 to 1-1/2 feet for each of the vessels, some 12,673 tons of cargo valued at $1.2 million were left behind. This was bulk cargo which, because of the complex international chartering arrangements, was not carried on other ships. The result is lost trade, lost jobs, and lost future business for the Lower Mississippi River. Based on the above, if just 10% of the some 6,000 vessels calling annually on the Lower Mississippi River were affected by a 1 to 1-1/2 foot draft reduction, we estimate that the total loss would be more than 1.9 million tons with an estimated value of over $186 million. There is another side to these losses. When vessels go aground because of shoaling, additional expenses are incurred. One vessel we studied was aground for 4 days and spent $126,000 above its normal operating expenses during that time. When vessel owners must assume this type of risk to call on the Lower Mississippi River, our port area becomes less attractive.

We cannot emphasize too strongly that draft restrictions will have a detrimental effect on the future of the Lower Mississippi River Port Facilities and the important Mississippi Valley they serve. The inability to constantly maintain project depth deters charterers and owner from contracting to load full cargoes of bulk commodities at local port facilities because of the uncertainty of the controlling draft. The uncertainty of channel depths could cause the entire area from the Gulf to Baton Rouge to become a penalty port area.

We make a special appeal for appropriations in FY 87 to avoid in the future the serious shoaling problems that have affected Southwest Pass in the past. The Port of New Orleans has shown that each 500 tons of cargo creates one job. Thus, our request is for adequate funding to preserve and protect the 272,000 jobs created by the foreign waterborne commerce on the Lower Mississippi River.

If the Lower Mississippi River is to continue as a major port, we must be able to serve the larger, more efficient vessels. To do so, the entrance to our port, Southwest Pass, must not only be maintained at all times at its authorized project depth, it must be deepened.

The need for channel deepening is underscored by the growth of two export cargoes on the Lower Mississippi River--grain and coal. Up to 1960, one grain elevator operated on the Lower Mississippi River. Today, there are ten elevators and numerous midstream loading operations. During the 1960s, between 14 and 19 million tons of grain was handled yearly. In the 1970s tonnage substantially increased to between 30 and 40 million tons yearly--over one-third of the nation's total grain exports. Last year (1985), 51.6 million tons of grain were handled--an increase of 5.7% over 1984. In 1984 the Lower Mississippi River moved 44.4% of our country's total grain exports. In 1985 it was 50.1%. In addition to grain, millions of tons of petroleum and petroleum products, along with various ores, are carried by large vessels to and from the Lower Mississippi River. Coal exports increased from 1.25 million tons in 1975 to over 8.3 million tons last year--an increase of 564%.

However, the real potential of growth may only be reached with a 55-foot channel. It is estimated that $4 per ton or more can be saved exporting grain if the channel could accommodate vessels loaded to 55 feet. A savings of $400,000 or more could be realized on just one ship loading 100,000 tons of grain. Brazil, Argentina, Australia, and Canada are becoming more aggressively competitive in the world grain market. It would not be surprising in the future to find America's competitive edge in world grain trade determined solely by the lower transportation costs noted above.

Combined with the expected growth in grain exports is the potential for continual growth in coal exports. Here, too, is a potential savings in transportation costs to America's customers--$6 per ton or more if the channel would allow vessels to load to 55 feet.

The increase in grain and coal exports will have several positive effects on the U. S. economy. Grain, traditionally, has had a positive effect on our balance of payments. The same can be expected of coal exports. But the greatest effect that deepening the channel will have is the creation of new jobs. Commerce through the Lower Mississippi River already provides some 272,000 jobs. The deepening project will protect these jobs and generate new ones. New jobs are vital for our state because of the depression in oil. Because of its tremendous positive impact, the Corps' 8.1-to-1 benefit-cost ratio of this $525 million project may be conservative, especially since growth in coal exports were not included.

In order that the strength and growth of the Mississippi Valley will continue, we urge that Congress appropriate the Corps' full capability of $9 million for a 45-foot channel. These funds can provide almost immediate help to shipping on the Mississippi River. It will not only help the larger 100,000 ton vessels but provide some draft stability for all bulk traffic. It will also benefit all shipping in general, as the deeper channel will eliminate some delays and congestion many vessels now experience when shoaling results in the grounding of a single vessel. Additionally, this project must be accomplished without the imposition of user fees. Such fees could wipe out the economic benefits of deepening the channel.

Since 1974 navigational interests have been urging a very important project in our area--the enlarging and deepening of Pilottown Anchorage. This anchorage is strategically located at the entrance to the Lower Mississippi River Port Complex. Some years ago Congress approved the project and the Corps' study was completed. However, the anchorage has not yet been widened or deepened. During the periods of intense fog we experience, large and/or deeply laden vessels need this anchorage as a safe haven. Without it, these vessels must transit to the Boothville Anchorage--many times with zero visibility. This project is vital to navigational safety and we urge you to provide the needed funds. Further, there is another benefit from the deepening of the Pilottown Anchorage. There is evidence that silt material from the anchorage results in shoaling within the channel in the vicinity of the Head of Passes, causing difficulties for navigation. Thus, removal of this siltation would assist in maintaining stability in channel depth for that area.

The President's budget for Operations & Maintenance, General, Mississippi River, Baton Rouge to the Gulf is $33.225 million. We recommend an appropriation of $39.655 million. The additional funds will give full capability to the Corps for necessary dredging and also provide for maintenance of the 45 foot channel.

We urge approval of the President's budget of $19.4 million along with the additional $9 million to give the Corps full capability for dike construction and bank nourishment.

The growth of the Port of New Orleans depends, in large measure on the Bulk Handling Plant and the Port's container and ro-ro facilities, among others, located on the Mississippi River-Gulf Outlet. In 1985, there were 1,665 deep draft transits in this channel--up 61% over the past eleven years. This seaway has a project depth of 36 feet. Shoaling has resulted in the loss of project draft. Within the past five years, the controlling depth on this channel has been less than project for 615 days--or 33.6% of the time. For safety reasons, transit restrictions apply to vessels with a draft of 30 feet or more. To improve safety on this channel and reduce or eliminate transit restrictions, funds should be appropriated to dredge and maintain a holding area and provide updated and additional navigational aids. In addition, we request that the Congress appropriate $6.14 million which is in the President's FY 87 budget for Operations & Maintenance, General, Mississippi River-Gulf Outlet.

The Public Bulk Terminal and the container terminals are located on the Mississippi River-Gulf Outlet, while the grain and other bulk facilities, and the public wharves are located on the Mississippi River. An adequate route between the Mississippi River-Gulf Outlet and the river is essential. The shortest route is an inefficient, antiquated 50-year-old lock with a width of 75 feet and limited to a depth of 30 feet. Its maximum capacity has long been exceeded. The waiting time for passage through the lock at present averages from 8 to 10 hours; however, waiting time on occasion has been in excess of 24 hours.

An adequate ship lock, 150 feet by 1,200 feet by 50 feet, has been authorized; and we urge that Congress provide the President's requested $2 million, which will support the Corps of Engineers' capability for continuing the study and design of this project.

I appreciate the opportunity to appear before the Committee.

STATEMENT OF ASSOCIATED BRANCH PILOTS FOR THE PORT OF NEW ORLEANS

Mr. Chairman:

I am Jacques Michell, President of the Associated Branch Pilots, the Bar Pilots for the deepwater ports of the Mississippi River from Baton Rouge, Louisiana to the Gulf of Mexico.

The Associated Branch Pilots is one of three pilot associations applying specialized piloting techniques in order to meet the demands of safe and efficient navigation in two of the four geographically different channels leading to the deepwater ports on the Mississippi River. The Bar Pilots, as we are called pilot vessels through the narrow and shallow entrance to the Mississippi River system known as Southwest Pass. We are also pilots for the Mississippi River-Gulf Outlet, which is a manmade channel, seventy-five miles long, that begins in the Gulf of Mexico and intersects the intercoastal waterway system at New Orleans.

I am here to testify, with the Board of Commissioners of the Port of New Orleans, on projects that are of vital interest to safe navigation and maritime commerce on the lower Mississippi River.

A United States Army Corps of Engineers study has reported favorably on a deep draft access to the lower Mississippi River via the Southwest Pass. The deep draft access would enable vessels with drafts of as much as 45 feet to enter the river and call at ports as far upriver as Baton Rouge. The channel in the lower Mississippi River is presently maintained at the federally authorized depth of forty feet which places a physical restriction on the ability of many vessels calling at ports in the river to operate at maximum efficiency. The forty foot limit is far below the capability of vessels that were built more than twenty years ago.

Containerization, which has firmly established itself as the most economical and efficient method of transportation of general cargo for the present and future, continues to develope. Container ships have already been constructed that are capable of exceeding present channel depths. Expansion of container facilities to meet the increasing numbers of these specialized vessels that call at the Port of New Orleans continues. Production of newly developed vessels for this service is already well underway.

The versatility of the river system in the Mississippi valley is well defined. Its integration with the other forms of transportation is well established. Waterborne commerce is the valley's greatest contribution to the economic and efficient movement of cargos in and out of the heartland of the United States due to its low cost per ton/mile and proven record of safety.

However, development of access to these facilities has failed to keep pace. Aproximately one out of four of the vessels calling in the Mississippi River have the capability of loading to drafts greater than the present forty foot project. Vessels greater than 120,000 deadweight tons, whose drafts, when fully loaded, would exceed fifty-five feet call regularly in the Mississippi River. Vessels of more than 240,000 deadweight tons have also entered the river at drafts far less than their capabilities. The project is not a proposal of a new waterway, only the improvement of a proven waterway system. All conditions, except increased channel depth, are available and ready in the Mississippi River.

The Mississippi River's companion channel, the Mississipppi River-Gulf Outlet, continues to increase in usage. The increase in the voulme of traffic results in a reduction in the need for maintenance dredging as the passage of vessels using the channel assists in the maintenance of channel depths. Some maintenance dredging, particularly of the area not bounded by land, will be needed and funding of this project should continue.

Over the years the Corps of Engineers has studied, developed, and improved the channels leading to the several ports along the Mississippi River by constructing training works, pile dikes, bulkheads and bank nourishment projects. As the engineers continue to develope and improve those channels the design makes them self-maintaining. Therefore, funding in this area is essential to the reduction of maintenance costs.

Despite the Corps' efforts, conditions periodically occur that require individualized attention. Unpredictable and above average snowfall and rainfall in the Mississippi valley results in an increase in the amount of water flowing down to the Gulf carrying with it silt that results in shoaling of the channel in Southwest Pass. By proper management and prioritization, the Corps has been able to effect timely restoration of the authorized channel dimensions.

Recently the Corps has invited the Associated Branch Pilots into the discussions of the shoaling that occurs in Southwest Pass during high river stages. We were pleased that the advice of the pilots caused the timely and efficient direction of dredging efforts and resulted in an increase in the efficient use of the funds allocated to this project along with a decrease in the losses that shippers have suffered in the past due to draft reductions as there were no significant reductions of operating draft during this last shoaling cycle. We are told that the stability that has resulted by our participation in the dredging issue has stimulated an increase in export activity in the river's coal industry and export, I am told is vital to the nation's economy. Full Corps capability in this area should continue to be funded in order to insure the Corps ability to continue to respond effectively.

Funding of the Corps initiatives in the lower Mississippi River is money well spent and money that will ultimately return. I urge your support of these very important porjects.

Mr. Chairman, this concludes my testimony. Thank you.

Energy Research and Development Programs

ADDITIONAL PREPARED STATEMENTS FOR THE RECORD

Senator **Cochran**. We also had several witnesses scheduled to testify on energy research programs, but I understand they will be submitting those statements for the record.

In addition, if there is no objection, we will also make part of the hearing record at this point any additional statements received by the subcommittee relating to research activities of the Department of Energy.

[The statements follow:]

STATEMENT OF GA TECHNOLOGIES, INC.

FY'87 ENERGY & WATER DEVELOPMENT APPROPRIATION RECOMMENDATIONS

Department of Energy	FY'87 Recommendation
Modular High Temperature Gas Reactor	$ 28M
Magnetic Fusion	$363M
Thermionic Fuel Element Verification	Support FY'87 DOE Budget
Small Nuclear Power Source Project	Support FY'87 DOE Budget
Multi-megawatt Terrestrial Power Plant	Support FY'87 DOE Budget
Nuclear Regulatory Commission	
HTGR Licensing Review Activities	$ 2M

Mr. Chairman and Members of the Subcommittee:

I am Norval E. Carey, Vice President of Government Operations at GA Technologies, Inc. I am pleased to have this opportunity to appear before your Committee and address the Department of Energy's FY'87 Budget Request for the Modular High Temperature Gas Reactor and Magnetic Fusion programs and areas of the DOE Defense Programs in which GA Technologies plays a role. I will also discuss our recommendations for the Nuclear Regulatory Commission's advanced reactor process and funding related to the MHTGR.

Briefly I would like to report on GA's pending change in ownership. This is especially important relative to our HTGR programs because GA has been and remains the industrial champion and vendor of gas reactor technology in the U.S. and is recognized as the primary repository of HTGR technology worldwide. Negotiations are nearing an end which we fully expect to lead to the sale of GA by Chevron to the Blue family of Denver, Colorado. The Blues are currently involved in the energy field via their ownership of gas utilities and oil and gas production activities. The Blues have indicated that the HTGR and our Doublet fusion programs as well as our recent entry into various defense areas were significant in their decision to purchase GA. They remain convinced that nuclear power will be an essential ingredient of the energy supply both in the U.S. and worldwide, and in particular, they view the modular HTGR as playing a major role in meeting this need.

Recently, the Department of Energy indicated there was a lack of commercial interest in and commercial application for the MHTGR. This is curious in light of the recent joint statement submitted to the Committee by Gas Cooled Reactor Associates, the utility organization formed more than 8 years ago representing 35% of the total electric generating capacity in the U.S. which has contributed financial support to lead to commercialization of gas reactor technology and from whose Chairman you will receive testimony later this afternoon. The joint statement indicating commercial support for the modular HTGR was signed not only by major U.S. utility executives but industrial participants such as GA, Stone & Webster, EG&G, Inc., Combustion Engineering and Bechtel Power Corporation.

In addition, GCRA recently surveyed the U.S. utilities as to their plans for future plant generating needs and found a large number of utilities which indicated they were planning for small incremental growth in their power generating equipment. Additions of 700 MW(e) or less as voiced by the large majority of the utilities fits squarely with the program direction of the modular HTGR in the 350 MW(t) range featuring passive safety, design and operational simplicity and the potential to achieve power costs competitive with modern coal-fired units and conventional light water reactors.

Needless to say, with this modular HTGR program gaining such momentum, we are concerned with the proposed shift in the nuclear energy strategy by the Department of Energy as stated in their Congressional budget request. This strategy, which redirects the efforts of advanced reactors, could make it most difficult for the nation to ever benefit from the potential of a system like the modular HTGR.

Therefore, we strongly support the FY'87 funding recommendation of $28M for the MHTGR recently reported by the House Energy Research and Production Subcommittee in the DOE budget recommendations both to the House Budget Committee and the full House Science Committee. This level of funding will allow the program to maintain critical momentum leading to the validation and demonstration of a focused, goal-oriented MHTGR program recognizing that private sector cost and risk-sharing arrangements will be a critical feature of the plan.

A key accomplishment over the last year was the development of a licensing plan which was submitted to and accepted by the NRC. This is aimed at supporting the submittal of a full preliminary safety information document during this current fiscal year. We therefore recommend that $2M be provided the NRC with appropriate report language to assure the Agency will perform the critical MHTGR licensing review activities.

The fusion program is now bearing the fruit of the initiatives undertaken in the late 1970s. The prognosis for satisfying the scientific requirements for fusion power remains positive and is being continuously reinforced by the rapidly increasing worldwide data base.

The budget cuts experienced by the U.S. Magnetic Fusion effort in the past two years have been absorbed primarily by downselection of alternative confinement concepts and by sharply limiting commitments to new facilities. Cognizant of the nation's fiscal status and recognizing the value of instilling such discipline in the fusion program, GA Technologies has consistently spoken out in support of these budgets. However, we cannot concur with the $333M Presidential request for the FY 1987 Magnetic Fusion budget.

The basis for this opposition is the disproportionate impact this budget will have on productivity. The core of the effort to harness fusion power is a small number of major facilities, each of which is essential to the advancement of the program as a whole. We are requesting that $30M be restored to operating funds to allow the major devices to run experiments at full levels of operation. We believe this will result in a much more cost-effective program.

The Doublet III Dee tokamak, (DIII-D), which began operating on schedule a few weeks ago at GA Technologies, serves to illustrate the point. With the largest plasma cross-section and the highest plasma current in the U.S., the start of experiments on DIII-D has been eagerly awaited by the world's fusion community. Indicative of this enthusiasm, the Japanese government has contributed to this undertaking in a major way in both funding and scientific talent. Yet the FY'87 budget for this world-class facility is significantly smaller than in past years. The Japanese have expressed concern that the budget reduction may adversely impact the schedule for conducting research for DIII-D and we share that concern. Restoration of operating funds would increase the productivity of DIII-D as well as other operating devices.

Stimulated by discussions at the summit level, the groundwork is being laid fur a major international initiative in Magnetic Fusion. Although the specifics of such a proposal have not been finalized, the vehicle will be a tokamak and the scope will combine full reactor scientific conditions with several of the principal engineering challenges of fusion research. The technical basis for this proposal will be provided by the operating results of the major tokamaks in FY'87 and FY'88. The personnel operating the facilities will supply the bulk of the scientific and engineering talent mandatory for accomplishing such a project. For these reasons, it is essential to provide adequate operating funds for the major tokamaks.

The Space Nuclear Power Program at GA continues to concentrate on the development of thermionics technology in cooperation with Thermo Electron Corporation and Rasor Associates. The impressive progress in the last three years has reestablished manufacturing and testing expertise and includes testing of full-sized thermionic cells in the GA TRIGA reactors. Test results have confirmed design expectations that in-core thermionics systems can meet space power requirements from a few kilowatts to multimegawatts. Emphasis is being placed on the Thermionic Fuel Element (TFE) Verification Program which will demonstrate the technology readiness in the 500 kilowatt to 5 megawatt range. This three-year program, to begin in FY'86, will include design of a thermionic space reactor with an output of 2 MW(e) as well as testing of TFE converters in fast-neutron reactors at the Idaho and Hanford DOE facilities. The program will be supported by funds from the DOE Multimegawatt Program in FY'87. The objective of this work is to remove development uncertainties in the thermionic concept and to expedite the development of advanced converters that will provide dramatic improvements in electrode power density and efficiency.

GA is developing several thermionic reactor designs that offer great potential for application in the Multimegawatt Power Systems Program. These designs include the conventional thermionic converter approaches coupled with energy storage systems to achieve 100 to 200 MW(e) and an innovative burst power concept that can produce 100 MW(e) in a closed cycle thermionic system. We at GA firmly believe that nuclear thermionic technology has the potential for application in a broad power spectrum that can enable space missions that require compact, lightweight and survivable power systems.

GA is developing the TRIGA Power System (TPS) to provide a compact, inherently safe, and reliable power plant for the Multimegawatt Terrestrial Powerplant (MTP) Project. The TPS combines two well-established and ideally-suited technologies: the TRIGA research reactor and the organic Rankine cycle power conversion system. We were joined by Chicago Bridge & Iron, Gilbert-Commonwealth, and Mechanical Technologies Inc. for the conceptual design study completed last year. The study showed that the concept, like the TRIGA research reactor, can provide a fully automated plant that can be operated by a small technician-level staff. Both fuel logistics and site requirements are minimized resulting in power generation costs competitive with similar sized fossil-fired plants. We fully support continuation of this program which will lead to the demonstration of a nuclear system which will satisfy the requirement for secure and reliable power for ground-based SDI systems and other mission-critical military installations.

GA is also involved in the manufacture and supply of nuclear fuel for the Small Nuclear Power Source Demonstration Project and we would encourage the Committee to continue its support for this project. We believe the application of Small Nuclear Power Sources is quite broad and will extend beyond potential use with the North Warning System.

Finally, Mr. Chairman, I would like to express the appreciation of GA's management and employees for past support your Committee has provided for the programs I have discussed here today. Your program guidance and direction have been helpful in achieving many milestones in the advancement of nuclear research.

Thank you for the opportunity to testify.

STATEMENT OF GAS RESEARCH INSTITUTE

I appreciate the opportunity to submit testimony outlining the Gas Research Institute's (GRI) views and FY 1987 budget recommendations for establishing a viable hydrocarbon geosciences research program in the Department of Energy's (DOE) Office of Energy Research. GRI is recommending a redirection of $35 million within the total $1.8 billion funding request for programs managed by the Office of Energy Research (OER) to fund the expanded geosciences program.

GRI is an independent, not-for-profit scientific research organization that plans, manages, and develops financing for a cooperative research and development (R&D) program for the mutual benefit of the gas industry and its present and future customers. The Federal Energy Regulatory Commission (FERC) annually reviews and approves GRI's program which is implemented through contracts with research organizations, engineering and other professional service firms, universities, energy companies, and manufacturers. Funding for the GRI R&D program is provided primarily through a funding unit attached to regulated natural gas sales by GRI's 32 interstate pipeline company members. GRI members, subject to appropriate state approvals, also apply a similar charge to their intrastate and direct industrial sales. Even though GRI is not a government contractor and does not accept federal funds, GRI cofunds and coordinates many of its research programs with DOE. Therefore, the actions of Congress on the proposed FY 1987 DOE budget have a direct impact on the gas industry's research program.

GRI believes that the Department of Energy needs to reevaluate its basic energy research program to ensure that there are adequate funds for university- and national-laboratory-oriented research in petroleum geosciences. The proposed FY 1987 DOE budget for basic energy sciences contains only $15 million for geosciences; more than half of these funds are for long-term nuclear waste storage research. Yet, the U.S. is projected to rely on oil and gas to meet approximately 50 percent of its energy demand for the next 25 years. Therefore, GRI is recommending a redirection of $35 million within OER to establish a viable program in hydrocarbon geosciences with emphasis on deep-source gas, methane hydrates, geopressured gas, and related generic reservoir phenomena technology.

RELATIONSHIP TO NATIONAL ENERGY POLICY PLAN

DOE has just finished and transmitted to Congress the fifth National Energy Policy Plan (NEPP). A review of the plan and the accompanying energy projections clearly indicates the following:

1. For the rest of this century, oil and gas are likely to remain the principal energy sources for the American people. They now provide about two-thirds of the commercial energy used in the U.S., and they are projected to furnish more than half in the year 2000. (See Figure V1-2)

2. Domestic reserves of oil and gas generally have been decreasing since the 1970s, and the nation is not finding as much new domestic oil and gas as it produces each year.

3. Enhanced recovery initiatives can coax an additional 14 billion barrels of crude oil from existing U.S. oil fields. The National Petroleum Council estimates that advances in technology could double that increase.

4. With reasonable economic growth, the nation will need between 100 to 300 gigawatts of new capacity over the remainder of the century. If new capacity is not available, utilities will meet additional demand by significantly increasing utilization rates of existing generating units not operating at maximum. Most of this unused capacity is in gas- and oil-fired units. Extended use will increase demand for gas and oil thereby increasing oil imports.

Based on these conclusions and projections, NEPP states, "If this country fails to find and develop new oil and gas fields--and [continues] to squeeze every economical drop from existing reservoirs--it stands a chance of letting the progress (reduced oil imports) of the past few years slip away."

The NEPP in discussing the federal energy research and development role and goals defines the administration's five basic objectives. The first four objectives are met by a viable geosciences research program.

1. To advance scientific and technical knowledge, which is the foundation for technological innovation.

2. To support academic research for the development of basic knowledge.

3. To sponsor cooperatively with industry long-term, high-risk research efforts that are unlikely to be undertaken alone by the private sector.

4. To help train scientific and technical personnel by supporting university research programs.

5. To facilitate the effective transfer of technology, making the results of research and development available widely and promptly in the marketplace.

In fact, without a geosciences program to provide the basic foundation for our national laboratories and universities to train our future petroleum geologists and engineers, geophysicists, and geochemists, the U.S. energy future is destined to include ever-increasing levels of oil imports for the next 15 to 25 years. The proposed geosciences program will provide needed opportunities for our youth to excel in geoscientific disciplines and will help to ensure that the nation will have the technical talent to explore the scientific and technological frontiers necessary to develop our domestic gas and oil resources to the fullest.

SUPPORT FOR DOE GEOSCIENCES PROGRAM

Several other organizations in addition to GRI have recognized the critical importance of an expanded geosciences program in DOE and have endorsed increased funding for this research. The Interstate Oil Compact Commission (IOCC), an organization representing the 30 state governors from producing states, passed a resolution at its December 1985 annual meeting that urges DOE to expand its geosciences research program. Specifically, the IOCC resolution (see attached) encouraged DOE to:

> . . . promote the use of domestic resources of oil and natural gas to satisfy future demand and, at the same time, to correct the severe imbalance between funding priorities in the energy R&D budget and projected United States demand for energy by shifting sufficient funds within its planned budget to eventually provide for an adequate program in research of geoscientific issues associated with the discovery of oil and gas amounting to approximately $50 million per year; such newly established effort would (1) advance the state of the art in these technologies and (2) through funding at leading universities and other institutions in the field, assure the availability of well-trained professionals in the geoscientific field which will be needed by our country to satisfy the demand for oil and gas, to the maximum extent practicable, from domestic resources.

Just this past week, the Southwest Regional Energy Council, an organization representing the state legislators from the seven oil-producing states in the Southwest, issued a statement regarding national energy research policy. (See attached.) This statement urges DOE to:

> . . .promote the use of domestic resources of oil and natural gas to satisfy future demand. Further, the Council urges DOE to correct the severe imbalance between funding priorities in its energy R&D budget and the projected U.S. demand for energy by shifting sufficient funds within its

> planned budget to eventually provide for an adequate research program in oil and gas research. This must be accomplished by reallocating funds already committed and not by increased federal spending. A properly balanced R&D budget would advance the state of the art in these technologies and through funding at leading universities and other qualified facilities in the field, assure the availability of well-trained professionals in the geoscientific field which will be needed by our country to satisfy the demand for oil and gas to the maximum extent practicable from domestic resources.

Recognizing that DOE spends a disproportionate share of its resources on high-energy physics and nuclear energy at the expense of geology, geophysics, and geochemistry, all of which will play a greater role in the world's energy situation for at least 35 years, members of the Energy Research Advisory Board (ERAB) established a new Solid Earth Science Panel (see attached roster) at its February 5, 1986, meeting. ERAB, the senior advisory body to the Secretary of Energy, was responding to Secretary Herrington's request to review the short- and long-term earth science needs of the energy industries when it established the panel. ERAB selected John Schoettler, a geologist, as the Earth Science Panel's chairman. The panel will review current R&D and arrangements for coordination and cooperation among industry, universities, and federal agencies.

Discussions at the February 5 ERAB meeting focused on the loss of geoscientists in the oil and gas industry, which was attributed to scaled-back exploration and development plans. ERAB members agreed this will come back to haunt the country.

These recent actions by three high-level energy policy advisory bodies clearly demonstrate the urgent need to act now to establish a viable $50 million per year geosciences R&D program in DOE.

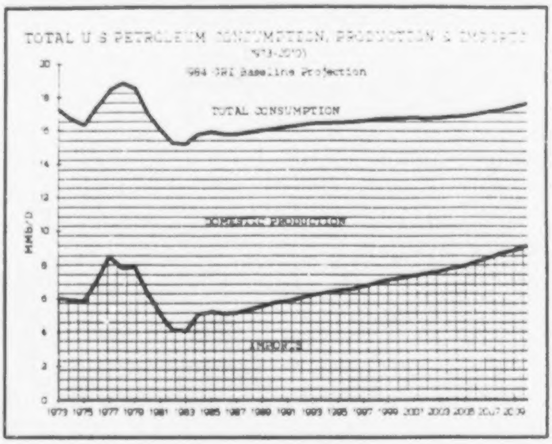
LIQUID FUELS OUTLOOK

The long-range impact of an unbalanced energy research policy and basic energy research program that essentially ignores domestic petroleum fuels is made clear when you examine the outlook for liquid fuel use in the United States. A major issue highlighted by the 1985 GRI projection of U.S. energy supply and demand is the increasing total demand for liquid fuels and oil imports. The GRI projection assumes that there will be steady economic growth at average historical rates and no increases in the real dollar-denominated world price of oil and that continued conservation trends will moderate demand growth in all of the energy end-use sectors. Still, it is estimated that U.S primary energy consumption will reach nearly 102 quads in the year 2010 with petroleum contributing 35 percent (36 quads) of the total. By comparison, in 1983 the U.S. consumed 31 quads of petroleum.

Petroleum consumption is forecast to increase from 15.2 million barrels per day in 1983 to 16.7 million barrels per day in 2000. In the extended projection, petroleum consumption reaches 17.6 million barrels per day by 2010. While domestic consumption is increasing, the domestic production of crude is expected to decline throughout the projection to 7.8 million barrels per day in 2000--a reduction of more than a million barrels per day from today's production levels. When compared to several major oil companies' forecasts, the GRI projection is relatively optimistic concerning U.S. crude oil production. The oil companies expect domestic crude production to decline faster between 1983 and 2000 to around 6.5 million barrels per day in 2000, or a reduction of over 2.2 million barrels below current production.

The net result of an increasing U.S. demand for petroleum with a simultaneous decline in domestic crude production is an increased dependence on foreign sources of crude. The GRI projection, which was developed before the recent dramatic decline in world oil prices, expects imports to increase to 9.2 million barrels per day in 2010--the greatest demand for imports since the 1977 high of 8.8 million barrels per day. The lower estimates of U.S. crude production from the oil companies would result in even higher levels of imports--over 10.5 million barrels per day.

The impact of low world oil prices on future U.S. oil production is dramatized by the fact that recent U.S. rotary rig counts--the leading indicator of oil and gas drilling activity--reached the lowest level since 1973. In March less than 1200 rigs were in operation compared with an average of 2428 in 1984. Since at least 40 to 50 percent of the domestic oil and gas production in 2000 must come from new reservoirs, the collapse in drilling activity, if it lasts for several years, will result in less domestic production and more oil imports than projected in current forecasts.



Simultaneously, the falling world oil prices have resulted in major U.S. oil companies' cutting their budgets. From mid-February to mid-March 1986, seven major oil companies reduced planned capital spending by $8 billion. This represents a 25 percent reduction from 1985. Exploration and production budgets were the first to be cut. To illustrate the impact, Data Resources Inc. (DRI) has projected that based on $16-per-barrel oil, only 48,000 wells will be completed in the U.S. in 1986. In 1985, 77,000 wells were drilled. DRI estimates low oil prices will result in only 37,000 wells being drilled in 1987. Bankers Trust Co. estimates the reduced drilling will cut U.S. production by 100,000 barrels per day within a year, and if current trends continue, by 1 million barrels per day in 1990.

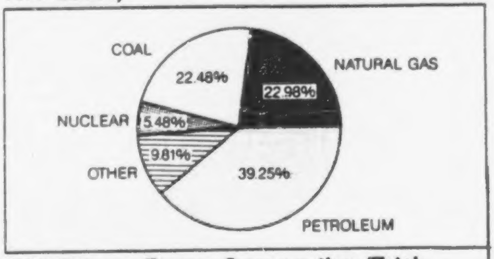
By the 1990s, the non-OPEC countries will face declining production levels. As a result, the U.S. may be faced with the prospect of again relying on OPEC oil as the major source of its crude oil imports. It seems probable OPEC will require significant premiums in real terms to increase production to these levels, which would lead to dramatic escalations in the world price for crude at the turn of the century.

National energy policy as modified by Congress has stressed and encouraged development of ample supplies of domestic energy resources and the more efficient use of energy to reduce the dependence on insecure oil imports. A central element of this policy has been congressional initiatives to restore funding for critical long-term nonnuclear energy research programs in DOE. Establishing a viable geosciences program in DOE's Office of Energy Research is critical if the U.S. is to successfully develop the full potential of its vast domestic oil and gas energy resources.

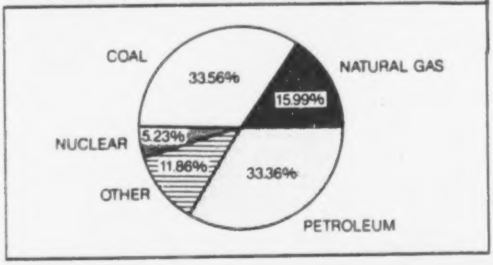
NEED FOR REVISED FEDERAL ENERGY R&D PRIORITIES

GRI estimates that for the next 25 years oil and gas will provide over 50 percent of U.S. energy needs; this is consistent with DOE Energy Information Administration projections. Whatever is not produced from these domestic discoveries will have to be imported. By 2010 the U.S. economy will demand at least 10 million barrels per day of oil imports and up to 7.3 Tcf of natural gas supplements that cannot be supplied from lower-48 supplies without a better understanding of the geosciences necessary to develop technologies to enhance oil recovery and to increase production from tight gas formations and deep gas reservoirs. If technology to economically produce these supplemental supplies is not developed, then oil imports will increase even more than is currently projected.

1985 Primary Energy Consumption (Total: 79.6 Quads)



2010 Primary Energy Consumption (Total: 107.0 Quads)



Despite this acknowledged demand for oil and gas, the DOE research and development budget continues to address only a small fraction of present and future demand for energy resources. The 1987 DOE budget request provides less than 1 percent of its total funds for research projects associated with oil and gas, while 1985 consumption of oil and gas was over 60 percent of total U.S. energy consumption, and 2010 consumption will be approximately 50 percent. The proposed budget for programs under the DOE Office of Energy Research is over $1.8 billion with only $15 million allocated to geosciences, i.e., less than 1 percent. Within the geosciences program, half of the funds are for nuclear waste storage and isolation studies.

DOE OFFICE OF ENERGY RESEARCH BUDGET
($ Millions)

	FY 1986 Appropriations	FY 1987 Budget Request
High-Energy and Nuclear Physics	$ 661.4	$ 773.4
Fusion	365.4	333.0
Basic Energy Sciences*	433.8	441.4
Biological and Environmental	186.3	196.5
Advisory Assessment and Support	68.1	82.5
Total	$1,715.0	$1,826.8

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*Geosciences budget for FY 1986 is $13.6 million of the $433.8 million allocated to basic energy sciences. The FY 1987 budget request for geosciences is $15.4 million within the $441.4 million basic energy sciences budget request.

A viable, cost-effective, long-term research program in the high risk areas of geosciences devoted to understanding the basic geology and chemistry associated with oil and gas discovery and production is essential as part of a balanced energy research program. Developing our own domestic resources rather than exporting jobs and increasing the trade deficit by increasing imports is sound national energy policy.

A relatively small redirection of $35 million into the geosciences research program in DOE would yield enormous benefits for the nation, would directly respond to the projected future energy demand, and would help the U.S. avoid over reliance on imported oil to meet future energy demand.

GEOSCIENTIFIC RESEARCH POTENTIAL

At present there are 30 billion barrels of proved recoverable oil reserves in the U.S., or just about six years supply at current consumption levels. Another 80 billion barrels of oil have yet to be discovered and are thought to exist in subtle geological traps (stratigraphic, paleomorphologic, paleogeographic, etc.) The identification of and production from these traps offer the possibility of extending our crude oil reserves many times and of stopping the decline in domestic production. Examples of giant stratigraphic traps include two of the largest fields in North America--East Texas and Prudhoe Bay. Each was wildcatted only because of some structural features which indicated potential, not because of an understanding of the nature of the reserves.

For each barrel produced in the U.S., two will be left in the ground using conventional production techniques. An appropriate geosciences program to improve enhanced oil recovery techniques to recover more of the remaining oil should be a national priority.

The potential for increased domestic production from supplemental natural gas resources is so huge that if successfully developed, abundant supplies of natural gas would be available for the next 100 years. However, there is so little actual knowledge or understanding of the geochemistry and geophysics of these resources that a major federal effort is required if the potential is to be realized.

GRI is proposing a redirection of $35 million within the budget for DOE's Office of Energy Research Programs (FY 1987 budget request of $1.82 billion) to establish a viable program in geosciences related to deep source gas, methane hydrates, geopressured gas, and related generic reservoir phenomena technology.

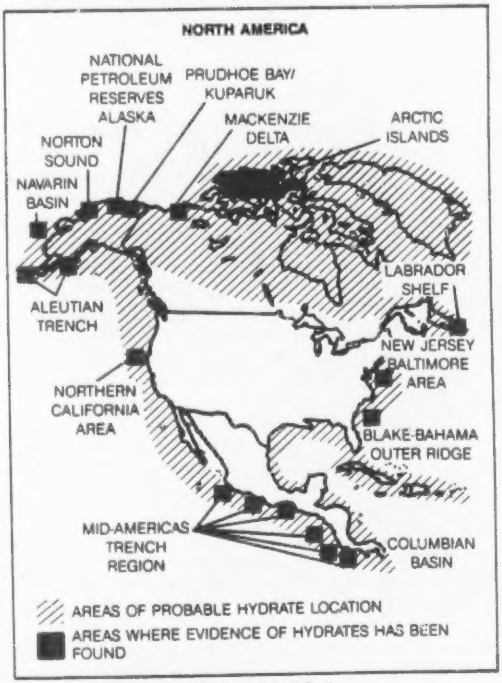
Geopressured zone methane is one of the major long-range options that could have large potential impacts on the supply of natural gas after the year 2000. These geopressured zones are located along the U.S. Gulf Coast and are sedimentary deposits containing trapped water and gas at higher-than-normal (hydrostatic) pressure.

Recent estimates of ultimately recoverable gas through advanced understanding of these reservoirs and production techniques developed by research vary from 50 Tcf to 1200 Tcf. The potential quantities of gas are extremely large, and this clearly merits an aggressive research program.

Methane hydrates are cages of ice with molecules of natural gas trapped inside. In 1981 the drilling vessel Glomar Challenger operating off the coast of Guatemala for the National Science Foundation discovered methane hydrate deposits in the sub-seafloor. Hydrates have also been discovered beneath the permafrost regions of Alaska's North Slope. Even potentially more important, seismic reflections from widely separated regions of the world's oceans indicate a "frozen zone" exists in many of the seafloor sediments, possibly containing methane hydrates.

To better define this resource and estimate its potential, research is required on sonic techniques and instrumentation necessary to identify hydrates through characteristic sound patterns. Research is also needed on better techniques to determine the electrical resistivity patterns (salty

Theoretical Methane Hydrates Location

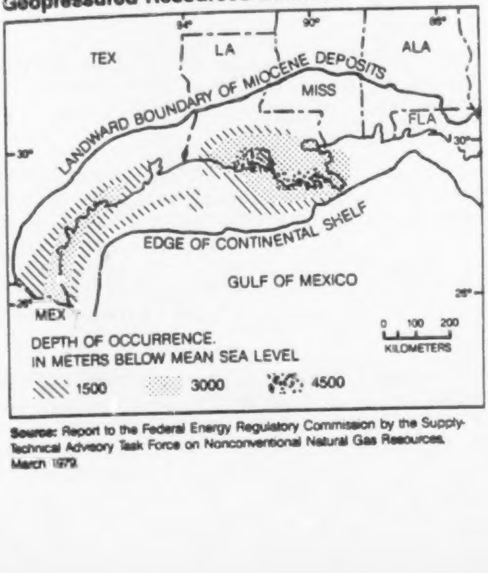

NORTH AMERICA
NATIONAL PETROLEUM RESERVES ALASKA
PRUDHOE BAY/ KUPARUK
MACKENZIE DELTA
ARCTIC ISLANDS
NORTON SOUND
NAVARIN BASIN
ALEUTIAN TRENCH
LABRADOR SHELF
NEW JERSEY BALTIMORE AREA
NORTHERN CALIFORNIA AREA
BLAKE-BAHAMA OUTER RIDGE
MID-AMERICAS TRENCH REGION
COLUMBIAN BASIN
AREAS OF PROBABLE HYDRATE LOCATION
AREAS WHERE EVIDENCE OF HYDRATES HAS BEEN FOUND

Source: DOE/FE-0046, "Unconventional Natural Gas"

hydrate formations are better electrical conductors than the surrounding unfrozen salt water) to help identify and locate the hydrates. New extraction technologies are required to melt the hydrates or separate the gas from the ice formations. Estimates of the gas contained in hydrates just along the U.S. continental shelf range up to 200 Tcf.

Deep source gas. Several theories exist concerning the occurrence of deep sources of natural gas. Two major sources hypothesized by scientists are abiogenic and subducted.

Geopressured Resources Location

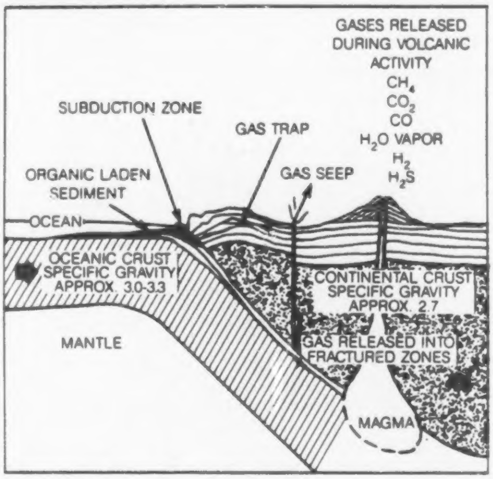

94°
90°
86°
TEX
LA
ALA
MISS
FLA
LANDWARD BOUNDARY OF MIOCENE DEPOSITS
30°
30°
EDGE OF CONTINENTAL SHELF
GULF OF MEXICO
26°
26°
MEX
0 100 200
KILOMETERS
DEPTH OF OCCURRENCE.
IN METERS BELOW MEAN SEA LEVEL
1500
3000
4500

Source: Report to the Federal Energy Regulatory Commission by the Supply-Technical Advisory Task Force on Nonconventional Natural Gas Resources, March 1979.

Abiogenic gas derives its name from speculation that it was formed by non-organic means; that is, it did not come from the decaying of organic matter. Instead, it was formed deep in the earth's mantle during the creation of the earth, and through the ages it slowly seeped to shallower depths.

Subducted gas is thought to be of organic origin, but instead of being formed from layers of compacted sediments, the gas is created when marine organisms and vegetation are pushed deep into the earth by the tectonic movement of the earth's crust. The subducted gas theory would indicate possible locations of rich traps of natural gas 20,000 to 30,000 feet underground.

Subducted Gas



Source: DOE/FE-0046, "Unconventional Natural Gas"

These theories remain controversial and a great deal of very basic scientific research remains to be done to resolve the origin of deep source gas. More importantly, understanding the migration routes of this gas could lead to completely new exploration techniques. It could also add several hundred trillion cubic feet of natural gas resources.

CONCLUSION

It is quite apparent that the world and U.S. energy future over at least a fifty-year time frame, and probably much longer, will depend a great deal more on our understanding of geology, geophysics, and geochemistry than on high-energy and nuclear physics and fusion energy. Basic geosciences research meeting DOE's current guidelines for federal support would greatly enhance our nation's ability to recover abundant domestic oil and gas. Therefore, DOE should start reordering its priorities without impairing those ongoing activities that are important elements in the nation's energy security by establishing a viable geosciences research program. Clearly, it is time for the Department of Energy's Basic Energy Sciences program to readjust its orientation in line with scientific, technical resources, and commercial realities as they relate to the energy future. The lack of a significant geosciences initiative seems to be totally out of balance with the strategic, technical, and scientific importance of this area. In FY 1987 the small DOE geoscience effort ($15.35 million) emphasizes geological isolation of nuclear waste, geochemistry related to the disposition of energy-related chemical waste, and scientific drilling in areas with high heat flow and hydrogeothermal energy potential. Although the strategic objectives of the DOE geosciences program cover areas of potentially greater interest, the total budget is too small to make meaningful progress and must be refocused to place top priority on critical issues of origin, occurrence, and recovery of hydrocarbons.

A $35 million redirection to provide an FY 1987 DOE geosciences budget of $50 million is the minimum funding required to establish a viable geosciences research effort in DOE's Office of Energy Research. Even this expanded program is less than 3 percent of the total budget proposed by DOE for programs under the OER.

RECOMMENDED REDIRECTION OF 1987 DOE OFFICE OF ENERGY RESEARCH PROGRAMS
GRI recommends the following FY 1987 redirection for geosciences:

Geopressured Resources	$10.0 Million
Methane Hydrates	7.0 Million
Deep Source Gas	6.0 Million
Abiogenic Gas	
Subducted Gas	
Geochemistry/Geomechanics	12.0 Million
TOTAL	$35.0 Million

Funding Recommendations

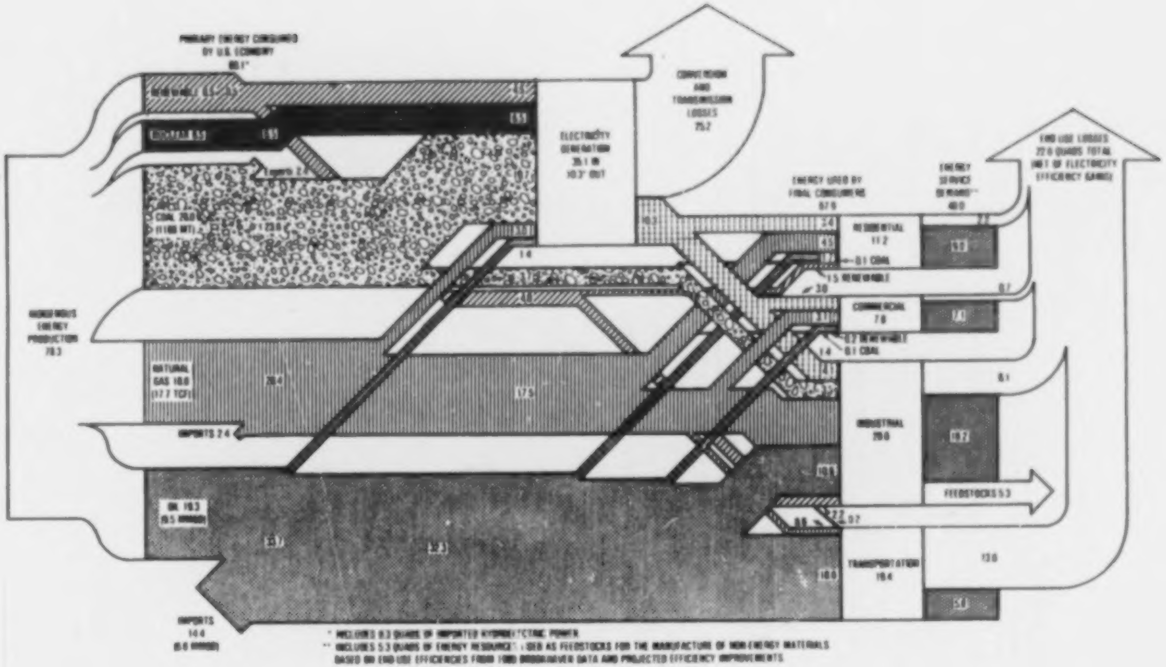
INSOFAR AS SPECIFICALLY GAS-RELATED GEOSCIENCE PROGRAMS ARE CONCERNED, GRI RECOMMENDS THAT DOE CONSIDER GREATER INVOLVEMENT IN THE FOLLOWING AREAS:

GEOPRESSURED ZONE METHANE
- PHYSICAL/CHEMICAL CHARACTERISTICS OF CONTAINED WATER
- UNDERSTANDING DEEP GAS MIGRATION IN DEEP BRINE FORMATIONS
- TECHNICAL/ENVIRONMENTAL ASPECTS OF BRINE MANAGEMENT
- TECHNOLOGY TO MAXIMIZE METHANE RECOVERY

DEEP GAS
- GEOCHEMICAL/THERMODYNAMIC ASPECTS OF DEEP GAS MIGRATION
- TECHNIQUES FOR DEEP GAS DETECTION
- MODELING MODES OF DEEP GAS ENTRAPMENT

METHANE HYDRATES
- EVALUATION OF RESOURCE POTENTIAL
- IDENTIFICATION OF STRUCTURE GEOCHEMISTRY, ETC.
- CONCEPTUALIZATION OF ECONOMIC RECOVERY TECHNIQUES

GEOCHEMISTRY/GEOMECHANICS
- THERMODYNAMICS OF ROCK-FLUID SYSTEMS
- ROCK FRACTURING/IN-SITU TECTONIC STRESSES
- POROSITY, PERMEABILITY, AND DISPERSIVITY OF ROCKS
- HYDROCARBON MATURATION
- CHEMICAL PROSPECTING


PRIMARY ENERGY CONSUMED BY U.S. ECONOMY 80.1*
RENEWABLE 6.5
NUCLEAR 5.5
IMPORTS 2.4
COAL 26.0 (1180 MT)
DOMESTIC ENERGY PRODUCTION 78.3
NATURAL GAS 18.8 (17.7 TCF)
IMPORTS 2.4
OIL 19.3 (9.5 MMBD)
IMPORTS 14.4 (6.8 MMBD)
ELECTRICITY GENERATION 35.1 IN 10.3* OUT
CONVERSION AND TRANSMISSION LOSSES 25.2
ENERGY USED BY FINAL CONSUMERS 57.8
ENERGY SERVICE DEMAND** 40.0
END USE LOSSES 22.0 QUADS TOTAL (NET OF ELECTRICITY EFFICIENCY GAINS)
RESIDENTIAL 11.2
0.1 COAL
1.5 RENEWABLE
COMMERCIAL 7.8
0.2 RENEWABLE
0.1 COAL
INDUSTRIAL 20.6
FEEDSTOCKS 5.3
TRANSPORTATION 19.4
28.4
17.5
10.6
18.0
8.1
13.6

* INCLUDES 0.3 QUADS OF IMPORTED HYDROELECTRIC POWER

** INCLUDES 5.3 QUADS OF ENERGY RESOURCES USED AS FEEDSTOCKS FOR THE MANUFACTURE OF NON-ENERGY MATERIALS
BASED ON END-USE EFFICIENCIES FROM 1980 BROOKHAVEN DATA AND PROJECTED EFFICIENCY IMPROVEMENTS

Figure VI-2. Projected U.S. Energy Sources and Uses in 1995 (NEPP-5 Reference Case)
(quadrillion Btu's)

INTERSTATE OIL COMPACT COMMISSION

December 9, 1985

Fellow IOCC Members:

The Interstate Oil Compact Commission has long been concerned with the level of federal research support devoted to geoscientific issues associated with the discovery and production of oil and gas. From a 1985 Department of Energy research and development budget of $1,859,600,000, less than $13 million was spent on geoscientific research to enhance oil and gas discovery and production. In comparison, oil and gas resources currently satisfy 60% of U.S. energy needs and are expected to satisfy 50% or more of those needs through the year 2010.

We are all aware of the new oil and gas discoveries which must be made in order to avoid over-reliance on foreign oil supplies. We are also cognizant of just how difficult it will be in the future to discover and produce the new hydrocarbon resources needed, without significant new knowledge and technology in the geosciences. Research targeting such areas as the investigation of subtle traps, new techniques for enhanced recovery, advances in the understanding of nontraditional oil and gas bearing geological formations, and deep source gas theories can help us address these needs.

Passage of the resolution now under consideration will not only demonstrate the oil and gas community's concern for adequate federal research support, but also urges fiscal responsibility through a critical redirection of federal funds (ultimately $50 million per year) rather than adding to the federal budget.

We hope you will join us in this effort.

Mark White
Mark White
Governor of Texas

George Nigh
George Nigh
Governor of Oklahoma

RESOLUTION
BEFORE THE CONVENTION OF THE INTERSTATE OIL COMPACT COMMISSION

WHEREAS, The United States is predicted to rely upon oil and natural gas to satisfy approximately 50 percent of its energy demand for the next 25 years, and

WHEREAS, Whatever United States demand for oil cannot be satisfied by domestic production will, in the short-term, be satisfied by imported supplies of oil, and

WHEREAS, Relatively expensive supplemental supplies of natural gas could also be subject to competition from imported oil, thereby leading to even greater dependence on the oil supplies of foreign nations, and

WHEREAS, United States hydrocarbon resources could be used to fill this future demand and thereby reduce the reliance on imported oil, and

WHEREAS, The potential domestic production of oil from non-traditional geologic formations, such as subtle traps, plus the potential additional production from domestic resources if adequate technology for enhanced oil recovery could be developed, could be over 500 billion barrels, and

WHEREAS, Many hundreds of trillion of cubic feet of gas could be recovered from such non-traditional reserves of gas as geopressured reservoirs along the United States Gulf coast, methane hydrates along the Continental Shelf off the North American coast, and from formations much deeper than state of the art drilling technology can reach, and

WHEREAS, The Department of Energy energy R&D budget is seriously imbalanced since it allows only 8.4 percent of its funds for all research projects associated with oil and gas, while 1985 consumption of oil and gas will be over 60 percent of total U.S. energy consumption, and 2010 consumption will be approximately 50 percent,

THEREFORE, The Interstate Oil Compact Commission urges the Department of Energy to promote the use of domestic resources of oil and natural gas to satisfy future demand and at the same time, to correct the severe imbalance between funding priorities in the energy R&D budget and projected United States demand for energy, by shifting sufficient funds within its planned budget to eventually provide for an adequate program in research of geoscientific issues associated with the discovery of oil and gas, amounting to approximately $50 million per year; such a newly established effort would (1) advance the state of the art in these technologies, and (2) through funding at leading universities and other institutions in the field, assure the availability of well-trained professionals in the geoscientific field which will be needed by our country to satisfy the demand for oil and gas, to the maximum extent practicable, from domestic resources.

Policy Statement of the Southwest Regional Energy Council

Regarding Enhanced Oil Recovery

Background.

The Southwest Regional Energy Council supports the development of technology and public policy faborable to produce as much of the domestic resources of crude oil as possible, including the estimated 300 billion barrels of already discovered oil which cannot be recovered under present technology and existing policies and economics.

One Key to unlocking this vast domestic resource is enhanced oil recovery (EOR), that is , a development and evolution of tertiary processes which would result in substantial reserve additions, economic activity and improved state revenues.

The Interstate Oil Compact Commission has undertaken a national study as well as state-by-state specific studies to assist in the development of EOR and effectively increase U.S. production, being undertaken initially by the states of Oklahoma and New Mexico with the cooperation of the U.S. Department of Energy and the National Institute for Petroleum and Energy Research.

Action.

The Southwest Regional Energy Council encourages other producing states to join in this national effort and participate in the development of this critical project.

Regarding National Energy Research

Background.

The United States is predicted to rely upon oil and natural gas to satisfy approximately fifty percent of its' energy demand for the next 25 years. years. Currently, the United States demand for oil is not being satisfied by domestic production alone, but is substantially dependent upon imported supplies.

United States hydrocarbon resources could be utilized to fill future demand, thereby reducing the reliance on imported oil and concurrently stimulating domestic economic activity. New technology and favorable public policy could stimulate domestic production from non-traditional geologic formations and promote enhanced oil recovery from an estimated 500 billion barrel reserve.

The U.S. department of Energy Research and Development Budget in recent years has been seriously inbalanced. Less than ten percent of available funds for all energy research projects has been allocated to oil and natural gas projects. A comparison of the budgeted amounts shows that:

• Oil research	\$30.303 million	1.42 percent
• Natural gas	\$134.947 million	6.32 percent
• Coal	\$353.589 million	16.58 percent
• Nuclear	\$992.615 million	46.56 percent
• Other	\$620.453 million	29.10 percent

Action.

The Southwest Regional Energy Council urges the U.S. Department of Energy to promote the use of domestic resources of oil and natural gas to satisfy future demand. Further, the Southwest Regional Energy Council urges the Department of Energy to correct the severe imbalance between funding priorities in the its energy Research and Development budget and the projected United States demand for energy, by shifting sufficient funds within its planned budget to eventually provide for an adequate program in oil and gas research. This must be accomplished by reallocating funds already committed and not by increased federal spending. A properly balanced research and development budget would advance the state-of-the-art in these technologies and, through funding at leading universities and other qualified facilities in the field, assure the availability of well-trained professionals in the geoscientific field which will be needed by our country to satisfy the demand for oil and gas, to the maximum extent practicable, from domestic resources.

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STATEMENT OF AMERICAN CHEMICAL SOCIETY

Dear Mr. Chairman:

The American Chemical Society appreciates this opportunity to present its views on the Department of Energy's FY 1987 budget request and to comment upon specific support for research in the chemical sciences under programs of the Office of Energy Research. Specifically, the ACS believes that:

> The appropriate areas of Basic Energy Sciences programs should receive an additional $22 million in FY 1987 for research in reaction kinetics, catalysis, and plant sciences. The Department of Energy must invest more heavily in research that explores the energy-related frontiers of chemistry where there is great potential for contributions to DOE's mission.

The long-term needs of the United States indicate that, as a Nation, we cannot ignore the energy area. Recently, Dr. Edward E. David, Jr., retired President of Exxon Research and Engineering Company, said that, "In energy, as elsewhere, new knowledge is both a critical and a renewable resource. Will the world develop the necessary knowledge in time to avert the next energy crisis? One thing we do know is that remarkable opportunities are emerging in the relevant areas of fundamental chemical science."(1)

This view is persuasively reinforced in the following excerpt from the National Academy of Sciences/National Research Council (NAS/NRC) Report, Opportunities in Chemistry:

> Every proposed scenario for energy consumption over the next four decades projects the need to optimize access to every energy source at our disposal. This need is made more urgent as we face the inevitable depletion of liquid fossil fuels because there will also be stiffening constraints imposed by the desire to protect the environment. In this setting, chemistry will continue to be the central scientific discipline in meeting the nation's energy requirements.(2)

The Report highlights the fact that over 90 percent of our energy consumption is based on chemical technology, yet the Department of Energy devotes only a modest fraction of its fundamental research program to the chemical sciences. In FY 1985 for example, the eleven fundamental research programs under the Office of Energy Research (Appendix I) received a $1.4 billion DOE commitment. Within this budget, the Chemical Sciences program, which funds mostly chemical research, is $79.5 million, less than 6 percent of the total. The Biological Energy Research program is $12.5 million, less than 1.0 percent of the total. Of course other programs contain chemistry components. For example, the Materials Sciences program devotes $33.7 million of its budget to chemical research. This amounts to 2.4 percent of the total fundamental research budget.

The last column of Appendix I indicates the results of identifying every program element that might be labelled chemical research. When contributions to "chemical sciences" are extracted from these fundamental research programs, they amount to approximately $175 million, or 12 percent of the total figure of $1.4 billion.

With chemical technology providing over 90 percent of the energy consumed in the United States, a trend which will undoubtedly continue for the next three decades, 12 percent of the fundamental research budget is an inadequate investment, especially when it is recognized that chemistry is no longer a "test tube" science. Greater resources are required to provide for the increasingly sophisticated research instrumentation and the increased cost of the support structure needed to carry out high quality research.

In order to meet the enormous challenges posed by new and lower quality energy sources, and at the same time to decrease the environmental impact of energy use (acid rain, smog, etc.), the U.S. must develop new catalysts, processes, fuels, and extraction techniques; more efficient combustion conditions; a better understanding of the fate of emissions; better emissions controls; and more sensitive environmental monitoring techniques. As a result, the Department of Energy must invest more heavily in the relevant frontiers of chemistry. These frontiers are clearly delineated in the Report, Opportunities in Chemistry, which indicates the many ways that the chemical sciences are ready to meet future challenges, if adequately funded.

As a first step towards meeting these needs, the American Chemical Society endorses the recommendation of the NAS/NRC Report that $22 million be added in the appropriate areas of the Basic Energy Sciences programs to support reaction kinetics, catalysis, and the plant sciences.

Reaction Kinetics - The amazing potential of lasers and computers for understanding the entire course of a chemical reaction needs to be exploited. Such an understanding could lead to better combustion efficiencies. An increase in combustion efficiency would be worth billions per year to the U.S. economy. Of course, a further important bonus could be the reduction of smog and acid rain.

Catalysis - The full range of sophisticated instrumentation techniques should be brought to bear on the crucial area of catalysis. These techniques extend across the range of homogeneous, heterogeneous, electro-, photo-, and enzymatic catalysis. Advances in catalysis could lead to more efficient production and use of energy sources.

Plant Sciences - The use of natural and artificial photosynthesis, biomass, and genetic engineering of photosynthetic organisms should be facilitated to capture and utilize solar energy in better ways.

Increased support and resources must be committed by the Department of Energy to these frontier areas over a sustained period of time. The NAS/NRC Report provides a five-year plan for such support (Appendix II). This plan, if followed, would result in an incremental growth of about 2.5 times the chemical research funding, which was available for these areas under the Basic Energy Sciences programs in FY 1985. The Energy Research Advisory Board's Chemistry Ad Hoc Review Panel, in its draft February 1986 report, has endorsed this recommended growth, which is equal to $33 million per year in FY 1985 dollars.

The American Chemical Society supports the increases proposed in the operating budgets of the Chemical Sciences program and the Biological Energy Research program. The Society believes, however, that a larger increase is warranted and could be used effectively. The stakes are too high and the potential benefits to our economy are too significant to postpone adequate funding of these important initiatives.

The Society recognizes that FY 1987 is a year in which budget restraints are being demanded. These times of economic stress are times of difficult priority choices; it is a time for retreat in some areas, and a time for increased investment in areas that will guarantee future progress. Japan and Great Britain have already identified and intend to provide additional support to these same energy-related research areas.(3)(4) A number of U.S. scientific programs that involve much larger expenditures are under consideration. They show that the cost of the initiatives detailed in our statement would be modest investments, but ones directly relevant to the DOE mission.

In closing, the ACS supports a competitive, merit-based peer-review process as the primary mechanism for selection of research and instrumentation proposals for large-scale centers and facilities. The Conference Report on HUD-Independent Agencies Appropriations (H.Rpt.99-363) endorsed such a principle. It is hoped that this Subcommittee will issue a similar statement of support.

The ACS appreciates the opportunity to express its views. The Society believes that the costs of its recommendations are minimal compared to the many potential benefits derived in helping to insure a stable, long-range energy supply in the U.S. and in reducing the Nation's vulnerability to the uncertainties of foreign oil supplies.

FOOTNOTES

1. Edward E. David, Jr., "Chemistry and The Next Energy Crisis," The Chemist, January 1986, p. 6.

2. National Research Council, Opportunities in Chemistry (Washington, D.C.: National Academy Press, 1985), p. 34.

3. "Recommendation of the Council for Science and Technology on the 11th Inquiry titled, 'Comprehensive Fundamental Policy for Promotion of Science and Technology to Focus Current Changing Situations from the Long-term View,'" The Council for Science and Technology, Japan, November 1984.

4. "Bread and SERCuses," John Albery, Chemistry in Britain, May 1984, p. 413.

APPENDIX I

Relative Funding of Chemical Sciences Among Ten DOE Fundamental Research Programs

(operating expenses - dollars millions)

Office of Energy Research Programs	1985 Enacted (a)	Chemical Sciences Portion (b)
Fusion	$ 374.3	$ 0
High Energy Physics**	372.9	0
Biological and Environmental Research	176.1	33.7
Nuclear Physics **	146.9	7.3-14.7 (c)
Materials Sciences *	133.1	33.7
Chemical Sciences *	79.5	68.8
Nuclear Sciences *	40.4	12.2
Applied Mathematics *	35.1	0.6 (c)
Engineering and Geosciences *	26.7	5.3
Biological Energy Research *	12.5	9.8
Advanced Energy Projects *	10.6	1.3
TOTAL	$1,408.1	$171.7-179.1

* Programs funded under Basic Energy Sciences
** Programs funded under General Science and Research

a) Source: Senate Report 99-110, "Energy and Water Development Appropriation"
b) Source: DOE provided for Energy Research Advisory Board's Ad Hoc Chemistry Review Panel, January 1986. Chemical Sciences portion may contain chemistry, biochemistry, and chemical engineering. Figures may include share of operating expenses at national laboratories.
c) DOE: very rough estimate.

APPENDIX II(5)

RESOURCES FOR BASIC RESEARCH IN THE CHEMICAL SCIENCES

CHEMISTRY AND THE DEPARTMENT OF ENERGY MISSION

DOE support of the chemical sciences is embedded in a total R&D FY 1985 budget amounting to $5778M, which rose by 4.1 percent from the FY 1984 level. However, 44 percent of this is directed toward Defense R&D, which rose by 10.3 percent. When these R&D activities are subtracted, the non-Defense R&D total, $3245.9M, is found to fall slightly relative to FY 1984 (by .2 percent).

In another profile of the FY 1985 DOE R&D budget, two-thirds will be expended in the DOE National Laboratories, which, all together, saw their proposed collective budgets rise by 8.5 percent from 1984. By difference, the one-third expended outside the National Laboratories ($1889.8M) fell by 3.8 percent. A component of the difference is attributable to the concentration of the overall budget increase in Defense-related R&D, most of which is conducted in 4 or 5 of the 12 National Laboratories.

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5. National Research Council, Opportunities in Chemistry, pp. 310-315.

Need for a DOE Initiative in Chemistry

With these 1984-1985 changes in mind, it is appropriate to assess the relative emphasis placed on fundamental research in chemistry by DOE in pursuit of its mission. To do so, we have listed in Table VII-11 the FY 1985 budgets of the most fundamental research programs conducted under the DOE headings "Energy Supply" and "General Science and Research." The individual programs are listed in order of size, and the last column shows the percentage of the total for those programs. The table shows that of the programs listed, the Materials Sciences represent 10.9 percent, the Chemical Sciences 5.3 percent, and the Nuclear Sciences (where Nuclear Chemistry is found) 2.5 percent.

TABLE VII-11 Magnitude of Selected DOE Fundamental Research Programs, FY 1985[a]

High energy physics[b]	$547.8M	30.7%
Magnetic fusion energy	440.1	24.7
Materials sciences[c]	193.6	10.9
Environmental sciences	191.1	10.7
Nuclear physics[b]	180.6	10.1
Chemical sciences[c]	95.1	5.3
Nuclear sciences[c]	44.0	2.5
Applied mathematical sciences[c]	36.8	2.1
Engineering and geosciences[c]	28.3	1.6
Biological energy research[c]	13.1	0.7
Advanced energy projects[c]	11.1	0.6
Total	$1781.6M	

[a] AAAS Report IX: *Research and Development, FY 1985* (following congressional action, as compiled by AAAS in Nov. 1984).

[b] Programs conducted under "General Science and Research."

[c] Programs conducted under "Basic Energy Science" within "Energy Supply."

The Materials Sciences Program devotes a modest percentage of its budget to chemistry-oriented programs (about 7 percent) including programs on Polymers (1.3 percent), Catalysis (1.9 percent), Corrosion (3.0 percent), and Combustion (.4 percent). About 9.4 percent of the Nuclear Science budget goes to support heavy-element chemistry.

One can explain the sense of urgency implicit in the very large annual investment being made in the development of nuclear fusion, an investment that has been sustained now for almost two decades. It is quite impossible, however, to rationalize the extremely modest emphasis placed on chemistry, as embodied in the 5.3 percent figure. Chemistry and Chemical Engineering will be the dominant sciences in the energy technologies that must be developed and that we will depend upon for the rest of this century. In 1983, 92 percent of the U.S. energy consumption was based upon chemical fuels. The small remainder, 8 percent of our use, was mostly provided by about equal contributions from nuclear and hydroelectric energy.

As the DOE contemplates its mission, *to assure future access to abundant and clean sources of energy*, it must reckon with these challenging expectations for the next three decades:

—by the year 2000 the U.S. annual energy consumption will probably exceed today's use by 20 to 50 percent;

—during the next three decades, growth in the use of nuclear power will be severely constrained by social concerns already in evidence;

—further increase in hydroelectric power has natural limits and is in conflict with widespread desire to minimize environmental encroachment;

—even the most optimistic proponents of nuclear fusion do not see it providing a large fraction of our energy use before well into the 21st century;

—dependence upon high-grade petroleum crudes and high-grade coal deposits must decline as worldwide reserves are depleted and as access to foreign crude oil is capriciously restricted by political developments beyond our control.

These boundary conditions surely point to the need for expanding the knowledge base upon which new energy technologies can be built. Chemical and electrochemical systems provide some of the most compact and efficient means of energy storage. And we can predict with confidence that foremost among the new energy sources will be low-grade chemical fuels, such as high-sulfur-content coal, shale oil, tar sands, peat, lignite, and biomass. For not one of these alternatives does appropriate technology exist today that can economically meet the stringent demand that environmental pollution be avoided despite the higher impurity content of these new feedstocks. Enormous chemical challenges must be met—for new catalysts, new processes, new fuels, new extraction techniques, more efficient combustion conditions, better emission controls, more sensitive environmental monitoring, and many others. Biomass must be brought to practicality to reduce the amount of fossil fuel burned and thus to help check the rate of increase in atmospheric carbon dioxide. (Combustion of biomass grown for fuel cannot return more CO_2 to the atmosphere than was consumed in the photosynthetic processes by which the biomass was produced). Solar energy must be fully exploited including through development of artificial photosynthetic and electrocatalytic techniques that avoid combustion by converting the photon energy directly to electrical or chemical energy. To accelerate our movement toward meeting these critical needs ***the Department of Energy should mount a major initiative in those areas of chemistry relevant to the energy technologies of the future.*** The same urgency that justifies our powerful program in nuclear fusion dictates a program of comparable magnitude in chemistry. The scope of the initiative should be broad, encompassing all forms of catalysis (homogeneous, heterogeneous, electro-, photo-, and enzymatic-catalysis), exploiting the new potentialities for understanding combustion, developing the plant sciences that will facilitate our use of natural photosynthesis, and adventuring boldly into frontiers that may open new energy avenues (genetic engineering of photosynthetic organisms, development of polymeric photovoltaic devices, etc.). The program should take full advantage of the multidisciplinary capabilities of our National Laboratories. Although its funding is set at a modest level, the Combustion Research Facility at Sandia

Livermore provides a laudable example. *In an appropriate number of our National Laboratories, the defined mission should be reshaped to include a major focus on one or more of the areas of chemistry crucial to energy technologies.* And, most important, the DOE research support to universities must be increased to engage the larger chemistry community in the accomplishment of the Department's mission. While the chemistry activity at the National Laboratories is being increased, *university research programs in energy-relevant areas of chemistry should be raised to be commensurate with those in the National Laboratories. In addition, the interaction between DOE laboratories and universities should be strengthened through visiting faculty researcher programs and long-term collaborative projects.*

A Proposed 5-Year Initiative

A program to approach these goals in a cost-effective way is presented in Table VII-12. It proposes to build toward a level of commitment about half as big as that for magnetic fusion, appropriate to the reality that 90 percent of our energy must come from chemical energy sources for the next quarter-century. *Incremental growth by a factor of about 2.5 is needed in chemistry research programs relevant to the DOE mission.* This level of effort should be roughly equally divided between the National Laboratories and university laboratories. The substantial growth implied is approached over a 5-year period at a real growth rate of 20 percent per year for 5 years to ensure cost-effective distribution of the incremental resources and to provide orderly growth of the DOE program management expertise that will be needed. Each yearly increment in this 5-year program would be divided in a growth pattern that will, first, stimulate the efforts of those National Laboratories that choose to refocus their defined mission toward chemistry-based energy technologies and, second, build the engagement of the academic research community in the areas that undergird these technologies. The FY 1985 baseline is taken to be $120M, based upon the approximate present sum of the Chemical Sciences, the Biological

TABLE VII-12 A Proposed 5-Year DOE Initiative in Chemistry (All in FY 1985 Dollars)

	Biological Energy + Chemical Sciences + Catalysis + Combustion	Incremental Growth	National Labs	Universities
FY 1985	$120M	$—	$ 94M	$ 26M
1986	142M	+22M	101M	41M
1987	169M	+27M	110M	59M
1988	201M	+32M	121M	80M
1989	239M	+38M	134M	105M
1990	285M	+46M	149M	136M
Total growth over 5 years		$165M		

Energy Research, and the Catalysis, Corrosion, and Combustion programs.

This initiative is intended to be broad in scope to encompass the range of chemistry frontiers at which advances can be expected and which are obviously of relevance to the development of new energy technologies. A desirable distribution of the incremental resources is given in Table VII-13.

TABLE VII-13 A Desirable Deployment of Incremental Resources (All in FY 1985 Dollars)

	1986	1987	1988	1989	1990	5-Year Program Growth
Catalysis						
Heterogeneous	$ 6M	$+6M	$+7M	$+8M	$+10M	$+37M
Homogeneous	+2M	+3M	+4M	+5M	+6M	+20M
Enzymes and artificial enzymes	+2M	+3M	+4M	+5M	+6M	+20M
Electrocatalysis	+3M	+4M	+4M	+5M	+6M	+22M
Reaction dynamics	+3M	+4M	+5M	+6M	+7M	+25M
Photosynthesis and photochemistry	+3M	+4M	+4M	+5M	+6M	+22M
Plant sciences	+3M	+3M	+4M	+4M	+5M	+19M
Increment	$22M	$27M	$32M	$38M	$46M	$165M

Technical Qualifications at the DOE National Laboratories

In light of our recommendation that the DOE mount an initiative in support of chemistry-based energy technologies, it is useful to ask about the distribution of technical qualifications of the scientific staffs at the existing National Laboratories. Furthermore, changes over the last decade in professional qualifications at each of the National Laboratories may indicate changing trends in the way each Laboratory sees its mission evolving. Table VII-14 shows for four National Laboratories the number of physicists and of chemists in 1970, 1980, and 1984. In assessing these figures, it is perhaps relevant to remember that U.S. business employs approximately 2.5 times more Ph.D. chemists than Ph.D. physicists.

The ratios shown in the last column of Table VII-14 are revealing. The only trend discernible is at Oak Ridge where the hiring pattern must reflect a deliberate movement away from chemistry-based technologies. At Argonne and Brookhaven, the hiring pattern seems to signal a general laboratory expansion over the 1970s followed by a retreat or slowdown in growth. However, in neither laboratory is there evidence of significant change toward chemistry-based mission goals. For Los Alamos only current data were available, and they display heavy emphasis on physics-oriented goals. These compositions imply leanings away from chemistry-based technologies, an outcome more or less dictated by and appropriate to the distribution of DOE research resources presented in Table VII-11. The program advocated in Table VII-12 projects an

TABLE VII-14 Distribution of Chemists and Physicists at the DOE National Laboratories

National Laboratory	Year	Number of Ph.D. Physicists		Professionals Chemists		Number of Physicists / Number of Chemists
Argonne	1971	168	+23	128	+31	1.31
	1980	191	−22	159	−27	1.20
	1984	169		132		1.28
Oak Ridge	1970	178	+72	180	−4	.99
	1980	250	+19	176	−10	1.42
	1983	269		166		1.62
Brookhaven	1970	200	+60	82	+51	2.50
	1980	260	+16	133	+1	1.95
	1984	276		134		2.06
Los Alamos	1984	679		242		2.81

overall growth by about 65 percent of the chemistry-oriented research activity at the National Laboratories. It is recommended that ***growth in chemistry-oriented research should be concentrated at those National Laboratories that choose to refocus their defined mission toward chemistry-based energy technologies. This growth should add substantially to the cadre of Ph.D. staff with credentials in areas of chemistry appropriate to the new mission.***

STATEMENT OF FUSION POWER ASSOCIATES

President Reagan, in a nationally televised report to the Congress last November following the Geneva Summit with Soviet leader Gorbachev, stated

> "As a potential way of dealing with the energy needs of the world of the future, we have also advocated international cooperation to explore the feasibility of developing fusion energy."

Furthermore, the final paragraph of the official joint statement reads

> "The two leaders emphasized the potential importance of the work aimed at utilizing controlled thermonuclear fusion for peaceful purposes and, in this connection, advocated the widest practicable development of international cooperation in obtaining this source of energy, which is essentially inexhaustible, for the benefit of all mankind."

In Japan, the February 15, 1986, edition of the Industrial Daily Press, announced that the Atomic Energy Committee of Japan was planning to build a fusion engineering test reactor during the 1990's with an estimated cost of $2 billion. The article further states

> "The nuclear fusion group is going to seek international cooperation from European countries and the United States on the basis of the plan and to take a strong posture based on the results of research that has been obtained thus far."

The article concluded

> "There is a great possibility that it will evolve into an internationally cooperated project at the Tokyo Summit to be held this May."

These events are part of a growing trend to recognize fusion development as an activity whose benefits transcend national boundaries and as an area in which cooperation can contribute to world peace and understanding as well as ensuring economic benefits to future generations.

This committee has amply demonstrated over the years its intent to fund programs where benefits to the nation are both significant and long-term. Most of the programs you support, including fusion, have their real payoff by providing the basis for long-term economic benefits to future generations of our citizens. You have always recognized that it is important to sustain the commitment to complete difficult tasks.

We in the fusion program have appreciated your support in the past and we are more committed than ever to successfully completing the task of developing fusion as a practical power source for the future. We ask that you attempt to find sufficient resources to fund both the magnetic and inertial confinement fusion programs in FY 1987 at the same levels as in FY 1986. In other words we ask that you reject the very sizable reductions proposed in the Administration's FY 1987 budget request. If you can maintain the funding at the FY 1986 level you will ensure that the facilities now in operation will be effectively utilized to obtain the scientific results for which they were built. The next few years are critical ones for demonstrating the scientific principles upon which fusion engineering test reactors will be built in the 1990's.

STATEMENT OF BIOMASS ENERGY RESEARCH ASSOCIATION

This testimony pertains to the Department of Energy R&D Appropriations. BERA recommends that $23.4 million be provided for Biofuels R&D, with the funds allocated in the following fashion:

Biomass Production Research	$ 5,200,000
Conversion Research	
Thermochemical (including MSW)	8,900,000
Biochemical (including alcohol fuels)	6,800,000
Regional Programs	2,500,000
Total	$23,400,000

Thank you Mr. Chairman and members of the Subcommittee.

My name is Donald L. Klass and I am President of the Biomass Energy Research Association (BERA). BERA is a non-profit association that was founded in 1982 by biofuels researchers to promote education and research related to the development of biomass energy systems, and to serve as a source of information on biomass policies and programs for our members and industry.

Each year, as we prepare to comment on the federal role in supporting biofuels research, we survey our members' views on the needs for research and development. These comments are directly reflected in the recommendations we are presenting today.

First let me take a moment to commend the Subcommittee for the recognition it has given biofuels research in recent years. Certainly, you have recognized the unique qualities and contributions of biofuels technology. For example, these technologies:

- Provide domestic, renewable substitutes for fossil-derived liquid, gaseous, and solid fuels, as well as electricity, by application of suitable conversion processes.
- Contribute about 3% to the Nation's primary energy demand with wood fuels (1.2 million BOE/d), octane-enhancing alcohol fuels in alcohol-gasoline blends (32,000 BOE/d), electric power from municipal solid waste combustion plants (8,200 BOE/d) and methane from municipal solid waste landfills (2,400 BOE/d).
- Retain in this country, even at a price of $10 per barrel of oil, about $4.5 billion per year that is not expended on imported energy.
- Provide excellent regional benefits — 80 cents of every dollar spent on biofuels in a given region stays in that region, while 80 cents of every dollar spent on petroleum leaves the region.
- Create local jobs and income such as, for example, the 65,300 jobs and $1.3 billion in income in the Northeast that result from wood energy utilization.

Clearly with relatively modest amounts of federal research support, especially in comparison to other technologies, biofuels are making a significant contribution to the Nation's energy supply. Further, biofuels technology is applicable to the special needs of every region of the Nation.

However, technological barriers remain before advanced biofuels systems can be utilized. These must be addressed with continuing federal support of basic and high-risk research and development because biofuels technologies are the only ones capable of providing energy in all its forms to all our citizens without concern for resource depletion, import problems, and environmental safety.

These highlights demonstrate the substantial benefits to be achieved through continued biofuels research and development. However, new capabilities such as the fermentation of lignocellulosic materials (wood and crop residues) to produce low-cost ethanol fuels, the production of medium-Btu gas at low cost, and the entrained pyrolysis of biomass to produce oil products, offer the potential for enormously increasing the versatility and ultimate scale of biofuels technology in the United States. At the same time, these innovations present complex technical challenges that require the resolution of many problems. It is particularly appropriate that the federal biofuels R&D program continue to maintain funding of biofuels for long-term, potentially high pay-off technologies.

BERA RECOMMENDATIONS

Before I describe BERA's recommended FY1987 funding priorities, let me take a moment to express some concerns that our membership has regarding the Department of Energy's biofuels program.

First our recommendations emphasize the need for continuity of funding research in thermochemical and biochemical conversion. Answering fundamental questions about how various biomass fuels can be processed and efficiently converted is the keystone to a sound program to develop advanced biofuels systems. Yet, this part of the program we believe, has been disproportionately reduced over the last few budget seasons relative to other program elements. In March, the House Subcommittee on Energy Development and Applications of the Committee on Science and Technology reported an authorization budget of $24.1 million for biofuels programs. The Subcommittee recognized the importance of conversion technologies by including within this total, $9.2 million for thermochemical conversion and $7.1 million for biochemical conversion. We trust the Subcommittee will take this factor into consideration during its deliberations.

Now, I would like to highlight for the Subcommittee some of the key aspects of our recommendations.

Thermochemical Conversion

The thermochemical conversion program has made substantial strides towards its objectives and is just now entering the phase when innovations at the bench scale are being consolidated into meaningful technologies. Reductions in the program at this time would prevent the consolidation of many of these gains. BERA's members engaged in thermochemical conversion research are alarmed at the large reduction in funding for research activities that the program has already experienced.

Research should be continued to develop innovative advanced gasification processes for the economic and reliable production of gaseous fuels from both biomass and municipal solid wastes. Progress has been made on optimization of reactor designs and operating conditions to maximize the desired products. More research is needed to evaluate feedstock conversion characteristics and requirements. Continuing research should also address problems associated with the feeding of solids at high pressures and recycling to improve carbon conversion and to reduce environmental problems.

Although BERA supports funding for prototype testing (on a cost-shared basis with industry), such testing should not detract from maintaining a vigorous thermochemical conversion program component.

Progress has also been made in achieving high yields of substitute fuel oils through the optimization of pyrolysis conditions for maximizing liquid yields. Research and development efforts should continue to improve oil yield and to quantify oil product combustion and storage characteristics.

Overall, BERA recommends $8,900,000 be directed to continue thermochemical conversion research in FY87.

Bioconversion

Bioconversion research has concentrated on the development of technology for the economical use of our vast lignocellulosic resources as feedstocks for fermentation and other bioconversion processes. The resistance of lignocellulose to biological attack and its multi-component make-up continue to present many difficult R&D challenges. The federal biofuels program should continue to address the problems of feedstock pretreatment, sugar recovery and fermentation, by-product recovery and applications development, and wastewater controls. An assessment of biofuels technologies conducted in 1985 rated lignocellulose bioconversion technology as the foremost development need. Again, progress to date is just reaching the point where individual advances in the laboratory are being consolidated into meaningful processes.

BERA recommends that $6,800,000 be directed to continue bioconversion research.

Biomass Production

Biomass production technology development by the biofuels program provides a much needed orientation of cultivation strategies to produce high-yield, low-cost biomass feedstocks. Short-rotation intensive culture tree growth offers a unique way to produce large amounts of woody biomass over shorter periods of time for energy applications. Herbaceous biomass development offers high-yielding energy crops with major soil conservation benefits and new opportunities for the farmer. Aquatic biomass production has proven very constructive as a treatment method for municipal sewage and simultaneous feedstock production. It also has the potential of providing new ways to produce liquid fuels.

BERA recommends that $5,200,000 be directed to continue biomass production research.

Regional Programs

Since the regional programs were instituted three years ago, they have proven extremely valuable in facilitating the transfer of technology to the private sectors in their respective regions. Feedback through the regional programs has also proven beneficial in the fine tuning of the mission-oriented research programs, and has better communicated the utility of the biofuels program to those at the grass roots level. BERA believes the biofuels program can benefit substantially by enhanced communication with universities, industry, and the community of prospective biofuels end-users. The December 1985 report released by the Energy Research Advisory Board also supports keeping a broad base of participation, especially with universities and industry, in the solar and renewable programs.

BERA recommends that $2,500,000 be directed to continue the regional programs.

Recommended Budget

One final consideration in presenting a biofuels budget is the recognition of the challenge to the biofuels program management as a consequence of the consolidation of several previously autonomous programs into a single biofuels program. Although the consolidated biofuels program has strived to sustain the original objectives of the separate programs, it is obliged to do so within the constraints of a steadily reduced budget. Thus, the "critical mass" of individual research initiatives is challenged by both a declining budget and an increase in the total number of research activities. To help overcome these difficulties and sustain an innovative program, BERA recommends a budget of $23.4 million for biofuels technology for FY 1987:

Biomass Production Research	$ 5,200,000
Conversion Research	
Thermochemical (including MSW)	8,900,000
Biochemical (including alcohol fuels)	6,800,000
Regional Programs	2,500,000
Total	$23,400,000

Program Evaluation

The Department of Energy Office of Conservation and Renewable Energy published an evaluation in 1985 to estimate the potential payoff of renewable energy options including biofuels, prioritize R&D objectives over the next 5 years, and identify the Federal Government's role in accomplishing these objectives. This type of comprehensive analysis is extremely important, so much so that BERA recommends that this process be an on-going one and that the results be applied to the makeup of the biofuels program to maximize the Nation's return on this investment. The formulation of a detailed 5-year plan which is updated on an annual basis and its critical review are strongly recommended.

I appreciate the opportunity to appear before you today on behalf of BERA and would be happy to answer any questions you may have now, or later in writing.

STATEMENT OF KMS FUSION, INC.

Summary

The 1987 Administration budget proposal calls for a reduction in operating funds for KMS Fusion from the $13.8 million appropriated in 1986, to a level of $12 million. This reduction would necessitate a 20% reduction in technical staff at KMS Fusion, and the loss of vital capabilities which do not exist elsewhere. We urge the restoration of our operating funds to a level of $13.7 million, corresponding to maintaining our current level of effort, after the recent Gramm-Rudman-Hollings reduction.

The Administration has also proposed to absorb the Inertial Confinement Fusion-related activities of the national laboratories into the Weapons Activities Research Development and Testing budget. We are concerned that this will reduce the visibility of the ICF program, lessen the accountability for ICF funding, and diminish the commitment within the laboratories toward achieving the program goals.

The Inertial Confinement Fusion Program

Fusion is the process which generates the sun's radiant energy, and which gives the hydrogen bomb its awesome power. In fusion, the fuel, consisting of the heavy isotopes of hydrogen (deuterium and tritium), is heated to a temperature of 100 million degrees, hotter than the sun's interior. At this temperature, the hydrogen nuclei fuse together to form helium, with an attendant release of energy. The fuel must be confined, i.e., held together long enough so that the energy released exceeds the energy invested to heat the fuel to the reaction temperature.

Inertial Confinement Fusion is one approach to confining and heating fusion fuel. Energy from a powerful laser or particle beam is concentrated on a spherical shell containing the fuel. The fuel is heated and compressed in the process, until thermonuclear conditions are achieved at the center, igniting the fusion reaction. The surrounding compressed fuel is then ignited by a propagating thermonuclear burn wave, releasing energy from the fusion reaction.

Inertial Confinement Fusion research has been supported by the Congress for over a decade, with two objectives. In the near term, the ICF program provides information about thermonuclear physics which is of vital importance to the nuclear weapons program. In the long term, ICF is viewed as an alternative path to harnessing fusion as a source of energy. In the Department of Energy (DOE), the ICF program is administered by the Office of Inertial Fusion, under the overall direction of the Assistant Secretary for Defense Programs.

The hydrogen bomb demonstrates that ICF is feasible on a large scale. The objective of the ICF program is to demonstrate that thermonuclear ignition can be achieved on a laboratory scale, driven by a laser or particle beam. At present, the two premier facilities available to the ICF program are Nova, a 10-beam, neodymium-glass laser at the Lawrence Livermore National Laboratory (LLNL), and PBFA-II, a light-ion beam facility located at the Sandia National Laboratories in Albuquerque. Both systems became operational in 1985. Four other laboratories are active in the ICF program. These are the Los Alamos National Laboratory (LANL), KMS Fusion, the University of Rochester Laboratory for Laser Energetics (UR/LLE), and the Naval Research Laboratory (NRL).

The Nova Project

In 1979, the DOE approved the construction of the Nova laser at LLNL. Nova was originally conceived as a 20-beam, neodymium-glass laser, capable of generating 200-300 kilojoules of infrared light in three-billionths of a second (3 nanoseconds). However, DOE only approved construction of a ten-beam system, designed to produce 100 kilojoules of infrared light, but with frequency conversion capability, to convert the output to visible light. The total project cost for Nova is approximately $180 million. Nova can operate with either two beams or ten, and is equipped with two experimental target chambers.

There are two basic approaches to driving an inertial fusion target. The laser light can impinge directly on the target (direct drive), or can be converted to x-rays in an enclosure ("hohlraum") containing the fuel mass, and the x-rays used to drive the target (radiation drive). Radiation-driven targets offer better uniformity of illumination than direct-drive targets, but sacrifice efficiency at lower laser energies. Both approaches are currently under investigation in the ICF program. Nova experiments will emphasize the radiation-driven approach, which also provides important information on the physics of nuclear weapons.

The Nova laser is currently used, not only for ICF experiments but also for experiments related to nuclear weapons physics, and the development of x-ray lasers. During 1986, experiments on Nova yielded the greatest number of thermonuclear neutrons ever achieved in an ICF experiment. The immediate goal of Nova ICF experiments is to demonstrate high density (500-1000 times liquid D-T density) at sub-ignition temperatures. Data from these experiments, along with information from other sources, will define the driver and target requirements for both ignition and high-gain targets.

KMS Fusion's Contributions to the ICF Program

KMS Fusion is located in Ann Arbor, Michigan, and is the only private participant in the ICF program. The Company has played a major role in the development of inertial confinement fusion. Fusion research at KMS Fusion began in 1971. In 1974, the world's first successful demonstration of laser-produced thermonuclear reactions took place at KMS Fusion's laboratory. Since then, the Company has contributed many other innovative "firsts" to the program. KMS Fusion was the first to carry out experiments with short wavelength light, a technique which has been subsequently adopted world-wide. The Company pioneered the use of frozen (cryogenic) fuel in ICF targets, a complex technique generally acknowledged to lead to improved target performance. In 1981, KMS Fusion scientists demonstrated that cryogenic targets perform better than room-temperature, gas-filled targets. At present, KMS Fusion is conducting experiments which combine the use of cryogenic fuel with precise control of the laser pulse's temporal shape, to further improve target performance. Preliminary results from these experiments indicate that we have been able to compress deuterium fuel to densities as great as 150 times liquid D-T density, using only 150 joules of laser energy. This density equals or exceeds the highest value previously obtained, with lasers a hundred times as powerful as the KMS Fusion laser, Chroma. These experiments demonstrate, for the first time, that the combined use of pulse shaping and cryogenic fuel leads to fuel compression with a minimum of heating, which in turn is absolutely essential to releasing significant fusion energy with a laser of reasonable and affordable size.

KMS Fusion has contributed greatly to the development of sophisticated diagnostic instrumentation for fusion experiments. In 1983, the Company developed a multi-frame holographic interferometer for visualizing the evolution of material surrounding the surface of a target. This instrument is capable of providing stop-motion images in 20 trillionths of a second. Up to four such images can be recorded during each experiment, which lasts less than a billionth of a second. For our current investigation of cryogenic targets, we have implemented the technique of x-ray backlighting, in which an added laser beam strikes a metal target simultaneously with the incidence of the primary laser beams on the ICF target. The metal target emits x-rays, which pass through the ICF target, as it is compressed, producing a time-resolved record of the implosion history.

The Company is a major supplier of targets and target components within the ICF program. The target fabrication effort comprises roughly half of the Company's activities. This effort supports the internal research program at KMS Fusion, and produces target materials and components for the other participants in the program. Several European laboratories also buy the submillimeter-sized glass and polymer Microshell® fuel containers that KMS Fusion has developed for fusion use. During the past year, record neutron yields were obtained in ICF experiments conducted at the UR/LLE, the University of Osaka Institute for Laser Energetics in Japan, and at LLNL. Both UR/LLE and LLNL used fuel containers (targets) supplied by KMS Fusion in these historic experiments. In the Japanese experiments the targets were made using techniques patented in Japan by KMS Fusion, although the Japanese refuse to acknowledge the existence of our patent. In addition to target fabrication, the Company is pursuing long-term research to develop the large targets needed for the critical experiments to be performed on Nova. These targets involve several techniques and technologies developed at KMS Fusion, including cryogenic fuel, and various new target materials.

In addition to the Company's efforts in materials science and target fabrication, KMS Fusion operates a highly productive experimental facility, the Chroma laser. Chroma is a two-beam laser, capable of producing up to 800 joules of infrared light in a pulse of one billionth of a second duration. This energy can be efficiently converted to visible light, which couples more effectively to the fusion target. The laser is equipped with a pulse stacker, which allows us to synthesize pulses of arbitrary temporal shape, an important parameter for optimal target compression. The Chroma laser is outfitted with two experimental areas. This allows us to carry out one set of experiments, while setting up other experimental configurations. At present, one experimental area is devoted to a unique optical system, devised and patented by KMS Fusion, which enables us to illuminate a target uniformly from all directions, using the light from the two beams of Chroma. Either gas-filled or cryogenic targets can be imploded in this target chamber. The other experimental area is used to explore the physics of radiation-driven targets, and to conduct other experiments on laser-matter interaction.

The Company's program of research in ICF is structured to support the primary objectives of the program. For the past five years, we have concentrated on expanding the physics data base for both radiation-driven and direct-driven targets, in anticipation of the onset of Nova experiments. KMS Fusion is the only laboratory currently conducting experiments on both kinds of targets. We are the primary supplier of fuel containers to LLNL and UR/LLE, and have initiated target development in support of classified activities in the program.

KMS Fusion's Unique Role in the ICF Program - Technology Transfer

KMS Fusion is the only private company active in the ICF program. As a private company, KMS Fusion's role is fundamentally different from that of the government laboratories or university researchers. We place greater emphasis on the support we provide the other participants in the program, and we are alert to opportunities to transfer technology developed in the fusion program to other government programs, and to commercial markets. Thus, we ensure that the maximum near-term benefit will result from expenditures made in long-term research.

Over the past few years, the Company's rate of success in technology transfer has been high. In our fusion research, we have developed x-ray detection technology with temporal, spatial, and spectral resolution. We are currently building specialized instruments based on this technology for LLNL, the U.S. Air Force Weapons Laboratory, the Defense Nuclear Agency, and the National Science Foundation. Working jointly with scientists from LANL, we have developed a commercial device for the detection of shockwaves or particle impacts, again based on ICF technology. Our technology transfer efforts are not limited to government users. KMS Fusion developed a device called a video multiplexer, which enables multiple video terminals to share access to a single hard-copy output device. We are now selling this device for use by industry in computer-aided design. Finally, we adapted the glass shells, used for fuel containers in ICF, for use as microcarriers, to support the growth of living cells for vaccine production. Two of our employees licensed the technology from KMS Fusion, and set up their own company to market the product.

KMS Fusion is active in technology transfer within the ICF program, as well. We are currently completing construction of a cryogenic target apparatus for use by UR/LLE. The cryogenic target apparatus is custom-designed, to be integrated into the UR/LLE's existing target chamber, and will be delivered in August 1986.

Contributions to Strategic Defense

The President of the United States has indicated that the highest priority program in the Department of Defense is the Strategic Defense Initiative (SDI). Most of the directed energy concepts in SDI, including laser and particle-beam weapons, have benefited from development carried out by the ICF program. Additionally, the availability of large laser facilities within the ICF laboratories provides a ready-made test bed for both target vulnerability studies and laser technology development. KMS Fusion, like other participants in the ICF program, has played an active role in SDI-related research.

In 1984-5, experiments were carried out at KMS Fusion by a team of researchers drawn from KMS Fusion, LLNL, NRL, and Imperial College in Great Britain, which paved the way for the first successful demonstration of a laboratory-scale, soft-x-ray laser. We are continuing soft-x-ray laser research under contract with LLNL.

Over the past year we conducted a series of experiments on the Chroma laser, with Physical Sciences, Inc., to measure the interaction of intense light with target materials. These experiments will continue in 1986. Other SDI contractors have scheduled time at KMS Fusion for further laser-target interaction studies, as well as investigations of phase conjugation and stimulated Raman scattering. The Chroma facility offers SDI investigators a unique combination of flexible pulse duration, a choice of operating wavelengths, a well-characterized beam, a high data rate, strong target fabrication support, and complete facilities for data analysis.

KMS Fusion's 1987 Budget Request

In previous years, the Administration's budget request has fallen far short of the program's needs, and Congress has restored program funds to the necessary level. This year, we confront a problem of a different nature. The Administration's budget request only specifies funding for the three "support laboratories," KMS Fusion, UR/LLE, and NRL. Funding for the national laboratory programs, which totaled $120.9 million in the 1986 Appropriation, has been absorbed into Weapons Activities Research, Development, and Testing. Funding for these activities is not specified, and is in fact to be determined within the weapons laboratories themselves. It is a measure of the high esteem in which the ICF program is held, that the laboratory directors have pledged a high level of support for ICF activities within the laboratories, for 1987. However, in subsuming ICF funds under Weapons RD&T, the importance of the ICF program is diminished, its goals are obscured, and the level of commitment to the program is significantly reduced.

Within the remaining funds earmarked for Inertial Fusion, we are concerned to see a proposed reduction in funding for KMS Fusion from the 1986 level of $13.1 million (after the Gramm-Rudman-Hollings reduction) to a proposed level of $12 million, even though the program total remains effectively constant. The reduced funding level will necessitate significant reductions in our technical staff. We estimate that at $12 million in 1987, our technical staff will be reduced by 20% from its level at the the start of 1986. These reductions will cause a corresponding loss of vital capabilities within the ICF program, capabilities which do not exist in any other laboratory. The loss of KMS Fusion's capabilities in target fabrication and diagnostic instrumentation capabilities, as well as reduced availability of the flexible and productive Chroma facility, will further slow down progress toward the goals of the ICF program. We urge that our operating budget be restored to a level of $13.7 million, the amount required to maintain our post-Gramm-Rudman-Hollings level of effort into 1987.

STATEMENT OF HAWAIIAN ELECTRIC INDUSTRIES, INC.

INTRODUCTION

Hawaiian Electric Industries (HEI) urges the Subcommittee on Energy and Water Development to recommend the appropriation of funds in fiscal year 1987 to complete the Mod-5B large-scale wind turbine program. If Congress acts expeditiously to make funds available in fiscal years 1986 and 1987, then the delays to the program and the likely added costs caused by the deferral of fiscal year 1986 Mod-5B funding can be minimized.

By seeking a deferral of current year appropriations, the government appears to be ignoring its commitments to the private sector, and the Department of Energy seems to be displaying an impervious attitude to repeated expressions of Congressional intent that the Mod-5B be completed. From the standpoint of HEI, the deferral of appropriations and the risk of losing the private investment already made in the Mod-5B have certainly dampened enthusiasm toward entering into future partnerships with the Federal government. Especially now, when the government is daily expressing its interest in public/private partnerships, the federal establishment should realize that its actions appear to be speaking louder than its words. Moreover, whenever the government commits itself to a program and the private sector subsequently spends large amounts in support of the program and then government changes direction in mid-stream, the government's credibility with private industry inevitably suffers.

The Mod-5B is a realistic, near-term technology that HEI hopes to utilize in the commercial production of electricity. Successful demonstration of this wind machine will give Hawaii another option for harnessing the considerable potential of wind energy that exists on the Islands. Further, successful development will better enable the State to shed its dependence upon imported fossil fuels. Hawaiian Electric Industries is committed to wind energy development even at a time when plunging oil prices have made renewable energy alternatives less and less economically attractive. Recently, HEI has constructed and is currently operating a 9 megawatt windfarm utilizing fifteen prototype 600 kilowatt wind turbines. This windfarm is situated near the site where the 3.2 megawatt Mod-5B wind machine will be located. Although available to the commercial market, even these smaller wind machines have experienced start-up problems. This experience from HEI's currently operating wind turbines underscores the high risks still associated with emerging technologies that are designed to use alternative energy resources. Nevertheless, once the Mod-5B has been adequately tested and placed into commercial service it is anticipated that Hawaii may be the site for several additional machines. Also, there are wind regimes throughout the world where the Mod-5B technology would appear to be a promising means by which to produce electricity.

CURRENT STATUS OF DEVELOPMENT

Since the mid-1970's, the government has invested more than $160 million in the development of wind turbines and approximately $70 million has been expended in development of the Mod-5B alone. Congress has described this wind machine as the "centerpiece" and culmination of ten years of federal effort to develop multi-megawatt wind turbines. As a part of the existing program, The Boeing Company, under contract to the National Aeronautics and Space Administration (NASA), which administers the Mod-5B program under an interagency agreement with the Department of Energy, is required to fabricate and test the wind machine. HEI, pursuant to a separate contract with NASA, is obligated to purchase the Mod-5B prototype for approximately $4.0 million, subject to certain adjustments, once the wind machine is constructed and successfully tested. In an effort to ensure that the schedule called for in the contracts is maintained, Hawaiian Electric Industries has already invested $1.6 million toward completion of this project. These funds were spent in reliance upon the Federal government's commitment to finish the fabrication and testing of the Mod-5B.

For fiscal year 1986, Congress appropriated $12 million for the Mod-5B program. However, on February 5, 1986, the President submitted to Congress a deferral of $10.24 million of these funds. Apparently the $1.76 million in remaining appropriations will be used to terminate the Mod-5B program. This would be consistent with representations in the Department of Energy's budget documents which indicate that the Mod-5B program is expected to be phased-out in fiscal year 1986. No funds were requested by the Administration for the Mod-5B in fiscal year 1987.

Cancellation of the program now would be particularly ironic because little work remains to be done before the wind machine can be placed into service. Through the contract with Boeing, NASA has completed engineering, design and procurement of all major hardware components and has prepared the foundation and erected the 190 foot tower. The rotor, nacelle, generator and gearbox are procurred and awaiting shipment to Hawaii. HEI has prepared the site for the wind machine, including all necessary access roads, on the Island of Oahu and has procured the substation, erected transmission lines to interconnect with the existing electricty grid, and installed necessary communications links.

The deferral of F.Y. 1986 funds has meant that shipment to Hawaii of the hardware has been suspended. Also, the deferral has caused The Boeing Company to reduce personnel assigned to the Mod-5B program to a skeleton staff. HEI is concerned that if currently appropriated funds are not released immediately, highly skilled technical personnel who have been associated with this project for many years will be permanently assigned elsewhere and the project will suffer a significant loss in necessary expert personnel.

Prior to the notice of deferral, shipment of the major components of the wind machine to Hawaii was scheduled to take place in April 1986. Had that shipment been made, the first rotation of the turbine was expected to occur in September 1986. Obviously, that schedule can not now be met. On the basis of information previously provided to the Subcommittee by The Boeing Company it appears that the machine's components could be shipped to Hawaii approximately two months after fiscal year 1986 funding is made available. The first rotation of the Mod-5B would then take place approximately six months after the components are shipped.

While this is still a research and demonstration project, with the attendant uncertainties of such projects, it should be borne in mind that NASA and Boeing believe that there are no known technical problems which will impede the successful completion of the Mod-5B. The most serious obstacle to completion of the program is the availability of promised federal funding.

FUNDING NEEDED TO COMPLETE MOD-5B

An additional $4.5 million in F.Y. 1987 funds will be required to complete the scope of work called for in NASA's contract with The Boeing Company. This additional funding assumes that the $12 million already appropriated by Congress for fiscal year 1986 will be made available toward completion of the Mod-5B program. The Boeing Company has previously indicated to the Congress that an additional appropriation of $3.0 million in F.Y. 1987 funds would be sufficient to complete the program. This amount assumed that there would be no delays to the program resulting from the proposed deferral and secondly that the scope of work required under the contract between Boeing and NASA with respect to the testing of the completed wind machine could be modified and reduced. Delays, of course, have occurred and if the scope of work is not reduced, then it is estimated that $4.5 million will be required in the upcoming fiscal year.

In the final analysis, the cost to complete the large wind turbine program should be compared with the costs that the government will incur to terminate the Mod-5B program now. When these comparisons are made, it becomes clear that any claimed savings to the government from canceling the program are largely illusory.

Under the sales agreement through which HEI would purchase the Mod-5B prototype, the government is obligated to restore the site if the program is terminated. NASA personnel have estimated that site restoration will cost between $1.0 million and $1.5 million. HEI has already invested $1.6 million of its own funds in performance of its contractual obligations and in anticipation of the purchase of the wind machine. Further, the government will lose the purchase price of approximately $4 million that would have been paid to acquire the completed and tested machine. From the standpoint of the primary contractor, The Boeing Company, termination costs could range from $1.0 million to $5.5 million, because Boeing has advanced its own funds to the project in anticipation of being repaid by the government.

Taken together, these termination costs and lost revenues to the government may range from between $7.6 million to as much as $12.6 million. At the lower range, termination would offer a "savings" of approximately $8.9 million over the costs of completing the program. At the upper limit, termination would "save" only $3.9 million. And in either case, these amounts are relatively inconsequential when compared to the $160 million already invested in development of wind turbine technology, and the nearly $70 million already spent on the Mod-5B.

CONCLUSION

The substantial federal investment in the development of the large wind turbine will be seriously compromised if the Mod-5B is not completed. Termination of the program now could result in the scrapping of nearly 500 tons of high technology hardware that is only months away from use. What is more, the government will have spent millions of dollars on the Mod-5B without having successfully completed a prototype. There is no assurance that all of the effort expended over the course of the last several years and all of the technology developed with federal funds will ever be put to beneficial use if this "centerpiece" project is not completed.

Disapproval by Congress of the fiscal year 1986 deferral and additional funding in the amount of $4.5 million for fiscal year 1987 is the only way to maximize the return on the government's substantial investment.

The timing of the Congress's action to disapprove the Mod-5B deferral is also important. The private sector needs to receive a clear signal from the Congress as soon as possible regarding the government's intentions with respect to the availability of funds to complete the Mod-5B. Each week of uncertainty adds to the costs of the project and increases the very real jeopardy that the large scale wind turbine project will be abandoned by the private sector.

Letter From R.L. McCrory, Director, Laboratory for Laser Energetics, University of Rochester

3 April 1986

The Honorable Mark O. Hatfield
Chairman, Subcommittee on Energy
 and Water Development
142 Dirksen Senate Bldg.
Washington, D.C. 20510

Dear Senator Hatfield:

As you may know, the Department of Energy's Inertial Confinement Fusion Program has recently been reviewed by the National Academy of Sciences. At the University of Rochester, we are in agreement with the findings of the Report which, in general, are supportive of the technical effort and progress in Inertial Confinement Fusion, which has served the Nation's advanced weapons research well over the years.

It is important to note that the Committee suggests continued separate line item funding for the Inertial Confinement Fusion Program. The University of Rochester is not in agreement with Assistant Secretary Foley's suggestion that the line item status of ICF be abolished and absorbed within the general RD & T budget. While it is true that this manner of funding might maximize the flexibility of the weapons laboratory directors to meet their weapons related commitments, there is a real danger that the short term weapons commitments could jeopardize the considerable investment this Nation has made in Inertial Confinement Fusion over the years. We believe with the NAS Committee finding, that line item status gives greater liklihood of achieving the identified goals within the next five years.

Although we realize that DOE proposes to continue as a line item the ICF Research at the support laboratories, we see this as a fatal trap, for there is no reason to have support efforts, if there is no specifically identified major effort. As a result, the total ICF Program would be put in jeopardy by Assistant Secretary Foley's strategy. The strength of the Inertial Confinement Fusion Program has come from its identity represented by the six major participating laboratories for a number of years. I view with alarm and dismay the potential of destroying the delicate balance, the sense of achievement, and the impact an integrated program, as a separate line item will have in the next critical five year period.

I respectfully request that you permit inclusion of the statement for the record I have prepared for your subcommittee hearings on the Inertial Confinement Fusion appropriations. We at the University of Rochester are quite proud of our contributions to the National Defense Inertial Confinement Fusion Program, and are greatly indebted to you for your support over the years.

Sincerely,

Robert L McCrory

R.L. McCrory

STATEMENT OF UNIVERSITY OF ROCHESTER, COLLEGE OF ENGINEERING AND APPLIED SCIENCE, LABORATORY FOR LASER ENERGETICS

SUMMARY

The University of Rochester's Laboratory for Laser Energetics (LLE) mission is to demonstrate the feasibility of laser fusion in support of the Defense Inertial Confinement Fusion Program. In FY 1987, LLE will begin its third year of a three year Cooperative Agreement with the U.S. Department of Energy to use the frequency converted twenty four beam OMEGA to address critical weapons physics issues in support of the national short wavelength program, continue operation of the National Laser Users Facility (NLUF), and continue to educate students and faculty in fusion, engineering, optics, and physics vital to defense problems. For a level-of-effort program (consistent with FY 1986 and the Cooperative Agreement), a total appropriation of $8,348,000 is required for FY 1987. Continued operation of the NLUF requires an additional appropriation of $700,000 for outside users of the NLUF.

PROGRAM STRATEGY

The basic concept of inertial fusion is that of implosion, driven by ablation, of a capsule containing thermonuclear fuel. There are two principal approaches to ICF: direct and indirect drive. In the indirect-drive approach, the laser beam energy is absorbed by a radiation case that converts the beam energy into x rays which then implode the target. In the direct-drive approach, a short-wavelength, high-intensity laser pulse is focused directly onto the thermonuclear capsule, ablating the outer layers which causes the target to implode.

The near term objective of the U.S. inertial fusion program is to demonstrate the feasibility of burning small masses of thermonuclear fuel using lasers or particle beams. An understanding of the physics of marginal fuel thermonuclear burn is essential to nuclear weapons research, development and testing programs. In the long-term, inertial fusion also has the potential of being a source of cost effective commercial power, if sufficiently efficient drivers (lasers or particle beams) can be developed. Also, in the long term, the potential for cost reductions in the weapons inventory due to ICF research can more than justify the resources this nation is presently spending on this program.

The National Academy of Sciences (NAS) review of the ICF Program has identified a number of issues for ICF. Of the twelve key issues cited in the NAS final report, LLE is addressing ten of them: Minimum drive energy required for ignition and high-gain; understanding plasma instabilities in laser-matter interactions at short wavelengths; investigating the efficiency of x ray generation; hydrodynamic stability of laser driven implosions; target fabrication requirements for laser fusion targets; demonstrating symmetry of drive required for high compression; understanding the physics issues for central ignition; exploring the capabilities of direct drive for laser fusion feasibility; developing target diagnostic instrumentation; and contributing to the development of advanced optical materials for driver technology.

In 1985, the NOVA laser was completed at the Lawrence Livermore National Laboratory (LLNL). The NOVA laser is operational and presently delivering 50 to 70 kJ of energy in the infrared and approximately half of this energy in the ultraviolet. The OMEGA glass laser system at the University of Rochester was fully converted to ultraviolet wavelength operation in February, 1985. OMEGA is currently capable of 2.4 kJ operation. Because the energy requirements for direct drive experiments is substantially less than that required for indirect drive, OMEGA experiments can investigate the capsule physics implosion issues which are central to the national program effort to demonstrate that the conditions required to drive a high gain capsule can be generated in the laboratory.

In the near term, experiments at LLNL and the support laboratories, of which Rochester is one, will be conducted to demonstrate that the required x-ray temporal pulse shape and drive uniformity, scaling of transport and plasma instabilities at high-gain-target scale lengths, the required stability of the imploding shell, the implosion velocities necessary for ignition, and final compressed thermonuclear fuel densities required for high gain can be obtained.

The conversion of OMEGA to the ultraviolet has resulted in a unique experimental facility for the investigation of spherically symmetric implosion experiments. The short term objective of the LLE program is to demonstrate drive uniformity with the OMEGA system sufficient to compress targets to densities in the range of several hundred times solid density. Densities up to one hundred times solid should be achieved on OMEGA using gas filled targets this year. Starting in late 1986, after improvements in illumination uniformity and the installation of a cryogenic capability presently under development at KMS Fusion, Inc., experiments should yield compressed fuel densities in excess of three hundred times solid by 1988.

The NAS final report notes (page 27): "The implosion of capsules with direct laser drive may be more efficient than indirect drive but it places greater demands on the symmetry of the driving lasers and on the control of hydrodynamic instabilities. The group at UR is now working on improving the drive symmetry of the 24-beam OMEGA laser sufficiently to allow compression of a cryogenic direct-drive target to 100-200 times liquid density. If this high-compression ratio can be accomplished with the small OMEGA laser, it would be necessary to take the potential of direct drive very seriously, and to consider a 30 kJ upgrade of OMEGA."

TECHNICAL ISSUES AND PROGRAM ACCOMPLISHMENTS AT LLE

The NAS final report on ICF states (page 73): "The University of Rochester (UR) is the only major unclassified ICF facility in the United States and is thus able to serve as a window to the greater scientific community, as a unique training ground for students and researchers, and as the focus of a user facility for applications ranging from x-ray microscopy and basic plasma physics to x-ray laser research." The report additionally cites the LLE for a number of accomplishments (page 73), including "Investigation and demonstration of high-efficiency frequency multiplication which now forms the basis for all the world's glass ICF laser programs, and is certainly a major cause of the present upswing in ICF technical results and prospects."

Experiments at LLE and elsewhere have revealed the following features: an absence of hot electrons generated by plasma processes which plagued progress in the early years of the laser fusion program; the first direct evidence that the Raman instability (another potential source of hot electrons) is stabilized; and high efficiency for the absorption of the laser light by the target. Collaborative experiments between LLE and the Los Alamos National Laboratory (LANL) have confirmed the high efficiency for the conversion of absorbed laser light to x rays (greater than 50%) on heavy element targets. In experiments conducted to establish induced spatial incoherence as an alternative approach to achieving high uniformity of irradiation in direct-drive geometries, NRL investigators have obtained favorable results. These results may accelerate progress in achieving the high densities required for program success.

Direct-drive ablation implosion experiments conducted at Rochester have demonstrated record thermonuclear neutron yields (April, 1985) which have been recently surpassed at LLNL (1986) which will be useful in the development of various high density diagnostic techniques for future experiments. Collaborative experiments between LLE and LLNL are presently in progress to exploit this technical opportunity.

The ICF program made possible the observation of amplified spontaneous emission of soft x-ray wavelengths. This important scientific achievement is of great interest in the U.S. Strategic Defense Initiative. OMEGA has been used to implode cylindrical plasmas. These experiments show considerable promise to provide a uniform, linear medium suitable for x-ray laser gain conditions. Future studies are expected to optimize the production of linear plasma for a variety of high brightness x-ray laser applications.

The major driver facilities, plasma diagnostics, target design capabilities, and target fabrication resources required to demonstrate the scientific feasibility of inertial fusion are now nearly in place. Experimental data on scale models of high gain targets which will be conducted in the near future should give increased confidence that high gain performance can be achieved. On the basis of experiments to be performed in the next few years, together with the development of high efficiency drivers, the optimal path to success should be apparent. As noted in the NAS report (Page 73) "The future program proposed by UR is to try to perfect the implosion symmetry to the point where 100-200 times liquid density can be achieved with the present 2.5 kJ OMEGA laser. This is a very challenging goal and should it be attained in 1988, they are proposing a 30 kJ upgrade of OMEGA with the prospect of demonstrating significant burn via direct drive. We believe that if they meet their milestone this is a reasonable and exciting prospect which we support, although no decision is required at the present time."

TRAINING AND MANPOWER

A number of graduate students concluded research for their degrees at LLE this past year. LLE continues to take great pride in its role of educating students and faculty. Government sponsored research helps the University to attract and retain faculty of the highest quality to educate students and conduct research in a variety of areas of vital interest to the country's defense programs. In research conducted by students and faculty at LLE, the Science Watch section of the New York Times (January 14, 1986) reported that "Researchers at the University of Rochester have reported measuring the world's fastest transistor using a special optical technique that tests electronic responses . . . " The electro-optic sampling technique was developed as part of the inertial fusion research program, and has now found an important role in helping maintain technological leadership of the United States in ultrafast electronics, which is vital to the national defense (e.g. SDI, battlefield management, communications command and control, intelligence gathering, etc). LLE's work in attracting new students for graduate and postgraduate study and research in areas of interest to the national inertial confinement fusion program and to advanced technology development has resulted in a large number of applications from prospective quality, highly-motivated students.

From its beginning in 1970, LLE has made the education of students one of its most important missions. This LLE mission is unique among the Inertial Fusion Program participants, and is vital to develop the needed special technical skills required by Defense Programs. We believe that the Laboratory will continue to fulfill its role to train the nation's scientific leaders for both the inertial fusion program and other advanced technology programs.

OPERATION AND MANAGEMENT OF THE NATIONAL LASER USERS FACILITY (NLUF)

Operation of the NLUF, a unique role of the University of Rochester in the national inertial fusion program, has resulted in a number of successes by users of the facility in FY 1985. A user experiment by faculty and students of the University of California (Berkeley) has provided a powerful new diagnostic for fusion plasmas, the streak photographic elliptic analyzer x-ray spectrograph.

Experiments conducted by the University of Texas to study nuclear fluorescence excited by x rays from a laser produced plasma have resulted in great interest in the possibility of the development of a gamma ray laser. The Innovative Science and Technology Office of the Strategic Defense Initiative Organization has shown considerable interest in the concepts investigated by the University of Texas and Rochester. The Institute for Defense Analysis Memorandum (Report M-122, November, 1985) notes that "Gamma-ray lasers, or grasers which would provide intense, controllable and directable coherent sources of such radiation -- in which phase as well as intensity have significance -- would have a revolutionary impact on most fields where both gamma-rays and x-rays are used already . . . With the advent of the challenging goals of the Strategic Defense Initiative, the gamma-ray laser became a key innovative concept worthy of careful and open consideration . . . An intense effort should be made in nuclear data base development and search for isotope candidates . . . gamma-ray laser development effort, at least for the present, should remain unclassified. This is important to the free exchange of ideas and the need for the participation of the university community which otherwise would be excluded."

Over 176 experimental shots were devoted to user experiments at LLE in FY 1985. Users came from the University of Florida, the University of Texas (Dallas), the University of California (Berkeley), the University of Maryland, the Los Alamos National Laboratory, the University of California at Davis, and the University of California in Los Angeles. The success of the OMEGA facility to serve a wide range of users in defense oriented research certainly supports the need to continue the program for users.

PROGRAM FUNDING AND MANAGEMENT

In October, 1984 the Department of Energy executed a three-year Cooperative Agreement with the University of Rochester. The agreement funds the LLE at a planned $23,468,000 for the three years not including funds which are provided directly to the NLUF users.

The negotiated Agreement which established Rochester's program as a level-of-effort program in these times of austere federal budgets, funds 63.6 man-years per year. Since 1971, the LLE has combined state, federal, and industry funds to support the research effort and continues to do so. Approximately $127,000,000 have been invested in the program, of which only 57% has come from the Department of Energy Defense Programs. Of all the inertial fusion program participants, Rochester has the largest continuing non-federal program helping to match the federal support.

In discussing management issues of the ICF Program, the NAS final report notes (page 33) ". . . the universities and NRL constitute a very important component, providing not only innovative ideas and major technical advances, but also training of personnel and a source of knowledgeable advice and criticism of the larger programs. Among the universities there is a major research effort in inertial confinement fusion at the University of Rochester, with smaller but prominent research activities at Cornell University, the University of California at Davis, the University of California at Los Angeles, the University of Maryland, and the University of Wisconsin. Even in stringent budget circumstances the Committee wishes to emphasize the importance of maintaining the vigorous research and intellectual base at the universities and NRL. Indeed, given the present marginal level of support for the smaller programs, and their unusually high impact and productivity, an effort should be made to selectively strengthen the most meritorious activities."

It is important to note the majority of the NAS Committee (page 37 NAS final report) ". . . held that ICF research should remain a separate line item, at least for the next five years, as the best way to achieve the major goals of the program in that time." The NAS report (page 36) states "If the program were not a separate line item managed by DOE Headquarters, the smaller programs might not be funded in any effective way."

In order to sustain a level-of-effort program to continue operation of the recently frequency-converted OMEGA system, manage the NLUF, and continue to train and educate students and faculty, LLE requires an appropriation of $8,348,000 (consistent with the Cooperative Agreement and program planning figures submitted to the Nevada Operations Office of DOE). These monies do not include funds for outside users of the NLUF. Approximately $700,000 needs to be appropriated in order to continue the NLUF program.

Reference

Review of the Department of Energy's Inertial Confinement Fusion Program, National Academy Press (March 1986).

STATEMENT OF INSTITUTE OF GAS TECHNOLOGY

Mr. Chairman and Members of the Subcommittee:

My name is Bernard S. Lee. I am President of IGT, a not-for-profit energy R&D organization in Chicago.

Having spent my entire career in energy research, I am concerned that energy is no longer viewed as an important issue today. There are those who say that funding of energy research should be cut drastically or even eliminated. They see the trends of the recent past - falling prices, supply surpluses - as irrefutable proof that forecasters who predicted the world was running out of fossil fuel resources were wrong. Yet the current energy surplus situation is no more proof that the "experts" were wrong than the supply interruptions of the '70's were proof that their predictions had suddenly come true.

Despite the recent decline in oil prices, our long- or even medium-term domestic energy availability is not one whit better than it was ten years ago; in fact, it is worse. Even before the current "free-fall" in oil prices, drilling for oil and gas in the U.S. had begun to decline rapidly. Well completions were off 20% in 1985 from the previous year and down nearly 30% from the 1981 record. The current drop parallels last year's decline in the rig count and 1986 has gotten off to a bad start with 31% fewer operating rigs than a year ago. Domestic spending on exploration and development has plummeted from almost $40 billion in 1982 to $27 billion in 1984 and dropped another 15% in 1985. If oil prices stay down for 2-3 years, investment in exploration and development will decline even more. When you consider that drilling is increasingly moving to remote and difficult locations that are expensive to develop, the magnitude of the decline becomes even more serious. All the Persian Gulf producers are doing is pushing the oil price down to the point where we will again be addicted to "cheap" oil, while totally neglecting alternative energy developments.

It's worth noting that despite the $250 billion spent by the petroleum industry on domestic exploration over the 1980-84 period, proved oil reserves declined from 30 to 28 billion barrels and the U.S. has the lowest ratio of proved oil reserves-to-production (only 9 years) of any major oil producing country. Our nation's proved gas reserves in the lower 48 states have similarly declined and are now equivalent to only 10 years production.

Several months ago, even when the universal prognosis was that oil prices would remain stable, several industry and government forecasts were published that foresaw a significant decline in domestic oil production from nearly 9 million bbl/day in 1984 to 7-8 million bbl/day by the end of the century, and a concomitant rise in imports from 30% to half of our total oil demand over the same period. Oil imports are already our single largest import item - three times greater than the second largest, automobiles - and could cost as much as $100 billion annually by 2000.

However, even these forecasts are outdated by recent events, since lower prices will boost consumption and further discourage exploration and production investments. Lower prices will also discourage private sector research and development outlays because they constrain energy companies' cash availability, and postpone the prospects of commercialization of alternative energy sources and innovative production techniques. Further, oil company research budgets have been hit in some instances by the double whammy of drastically lower crude prices, coupled with significant debt loads and redeployment of fiscal resources. They are not just cutting exploration, but in even greater measure, R&D efforts. Excellent laboratory facilities and professional research capabilities are being decimated.

The argument has been made that increased dependence on oil imports would not adversely affect our energy security, since we and our allies have switched our sources away from the Persian Gulf to non-OPEC producing areas and more "secure suppliers". But, a recent GAO report cautions against the U.S. taking for granted the ability and willingness of individual Caribbean countries to sustain or increase oil supplies to us. Mexico and Venezuela were our number one and number three crude oil suppliers. The GAO report stressed the limits both of these countries have placed on exports to the U.S., and that they have either curtailed or delayed maintenance of existing oil facilities as well as development of new fields. An increase in U.S. demand could force a resumption of Middle Eastern petroleum imports.

It's also important to keep in mind that the major non-OPEC discoveries - the North Sea, the North Slope - were the result of exploration expenditures made before 1973-74 and that similar investments are not being made today. Thus, unless major new discoveries are made outside the Persian Gulf - and this seems unlikely - we may be back on bended knee to the Persian Gulf producers. Dependence will increase not only in the U.S. and other industrialized countries but in the developing countries as well. This indeed is part of OPEC's strategy - to boost oil demand worldwide and to discourage new discovery efforts, heightening worldwide dependence on OPEC.

This nation is on a collision course between growing dependence on expensive imports and a contraction of investments in the development of viable alternatives. Although this may not be the time for massive expenditures on development, this is certainly not the time to savage the federal energy research effort. Rather, the Congress should "stay the course" in continuing to provide for a cost-effective federal presence in the support of energy research. Now is the time to channel funding into next-generation technologies so that we have them "on the shelf" to be deployed when they are needed. But, you can't put a technology "on the shelf" for later use if there is an incomplete data base. One result of omitting critical links in technology development, is that the government will be unable to receive an adequate return on its investment in energy R&D of previous years.

We have suggested in past testimony that we need a mature national energy policy that directs a balanced and sustained program to develop appropriate technologies to meet our future energy needs. This policy should ensure a smooth flow of technology from the laboratory to commercial use. There is a need for a sustained federal role in energy research. The private sector is unlikely to continue the development of a broad array of energy technologies once federal support is interrupted, because the private sector can only concentrate on the short term in view of the arbitrary and politicized nature of the world energy arena. The private sector cannot risk its resources to strive for long-term stability when faced with the uncertainties and fluctuations of a world market controlled by different national governments.

A level of funding close to the Appropriation levels of FY'85 and FY'86 would appear to be appropriate to ensure that only the best research ideas are pursued. We do not seek expansions, rather we seek a sustaining of federal energy research efforts consistent with due concern for the federal budget deficit. Bear in mind the impact of adequate energy supplies on the Nation's economy: employment, GNP, the homeowner. We have already witnessed the impact of crude prices on the world economy. For example, with every $5 drop in the price of oil, our cost of living drops by 1%. The reverse is also true. Therefore, Congress and the Executive Branch should establish a sound energy policy and set priorities in the federal budget accordingly.

IGT has followed rigorous procedures in formulating recommendations to Congress for assistance on the budget. Each year we apply a thorough technical evaluation of the Nation's future energy requirements and the funding sources available from both government and industry. With this in mind, we are proposing a suite of research efforts which are small scale, inexpensive approaches to a variety of energy problems. As part of the gas industry position on energy RD&D for FY'87, we recommend the following specific storage program in which IGT is involved:

Thermal Energy Storage

There are numerous applications in which either the availability of high temperature thermal energy does not match the short term needs or in which the energy demand cannot be economically met by the short term supply. An efficient high-temperature direct-contact thermal energy storage and recovery system (TES) would satisfy these short term energy mismatches. Examples include:

(1) residential heating where energy stored at off-peak rates could be used for heating during peak periods, thus leveling utility loads, reducing energy costs, and minimizing the need for new power plants/distribution capacity.

(2) industrial periodic processes such as those in the brick, ceramic, glass and steel industry in which energy normally exhausted up the stack during parts of the cycle can be recovered and stored for use to meet later process requirements, thereby replacing primary fuels.

(3) solar electric power generation, either terrestrial or for space applications such as the space station and the Strategic Defense Initiative in which energy can be stored when available for use when it is dark.

(4) thermal management systems will be used as part of any SDI space-based weapons system to control the temperatures of equipment such as refrigerators, compressors and energy weapons. High temperature TES could be used in such a thermal management system to absorb the waste heat created by such devices thus keeping them ready for reuse without fear of overheating. The energy stored in the TES would then be disposed of over a relatively long period of time without the need for excessively large radiators.

Currently high temperature industrial TES is accomplished by heating a ceramic brick during "charging" and cooling the brick to recover the heat during "discharging". The low energy storage capacity of the brick results in large, heavy, heat storage systems. Increased energy storage capacity can be achieved using phase change materials (PCM) which would be alternately melted and solidified, thus storing the releasing the energy at the desired temperature. previous attempts at using PCM's have proven impractical because of the change in volume upon melting and solidifying, and the great resistance to heat flow through the solid material.

IGT has developed a composite TES media in which a PCM of the desired melting temperature is contained within a porous ceramic. The composite retains the PCM both in the solid and liquid phases, thus storing large amounts of heat whle avoiding the problems of external volume change and poor heat transfer. When compared to ceramic bricks, the composite TES system results in 45% less weight and 35% less volume at an increase of more than 25% in efficiency. This composite TES technology can be tailored to any of the specific applications mentioned earlier. Information obtained on one application may benefit other applications.

This technology is the subject of an International Energy Agency (IEA) annex in which the U.S. government has responsibility for the development of a composite latent heat TES media and subsequent design, installation, instrumentation and operation of a full scale demonstration in the brick/ceramic industry.

IGT recommends $2.0 million to continue research on applying the composite phase change TES technology to industrial applications, specifically by increasing the heat storage capacity of the composite, constructing a PDU, conducting tests of the composite media, and using

SELECTED ENERGY RESEARCH RECOMMENDATIONS FY 1987

PROGRAM FACT SHEET

UNCONVENTIONAL GAS

Geopressured/Geothermal Energy:

Geopressured/geothermal energy involves the coproduction of natural gas and hot brine. It is well known that there are thousands of TCF of methane in the ground in conjunction with geopressured reservoirs. In order to produce cost competitive natural gas, and thus attract commercial risk capital, there are technical issues that need to be resolved. The Department of Energy currently has underway as part of its geopressured resources program, a research project involving specially drilled geopressured/geothermal wells in the Texas/Louisiana Gulf Coast area. This project includes production testing coupled with scientifically sound data collection and analysis necessary to determine:

* the quantity of hydrocarbons produced with the brine

* the thermal and hydraulic energy content of the produced brine

* the best methods to produce electricity from both the hydrocarbons and the energy content of the brine

* optimum techniques to treat the brine to inhibit corrosion and scale formation, remove solids, and dispose of the produced brine in a environmentally sound manner.

This project will provide information which will be available to industry and, therefore, lower the perceived risks associated with development of this important resource.

IGT recommends $4.2 million be provided to continue funding the existing DOE contract in which three field wells, Pleasant Bayou, Hulin, and Gladys McCall, will be used to resolve technical issues on production of hydrocarbons and brine, and generation of electricity using the energy content of the produced fluids, thus reducing the risk currently inhibiting industrial development of this valuable resource.

BIOFUELS

The conversion of municipal solids waste (MSW) and/or industrial wastes to gas produces a clean, useable form of energy, while simultaneously eliminating disposal problems and associated costs. Both biological and thermal conversion processes for waste gasification should be researched.

Biological Conversion:

IGT designed and is operating a biological conversion test facility which is located at Walt Disney World in Orlando, Florida. This facility currently converts a mixture of water hyacinths and sewage sludge to methane gas. This test facility should be used in a program to broaden the application of the process to a mixture composed of municipal and/or industrial wastes and sewage sludge with a low concentration of water hyacinths. The goal of the program will be to develop a process that disposes of municipal/industrial wastes and sewage sludge at a 20:1 ratio, the typical production ratio of most municipalities.

IGT recommends $1.35 million for the joint funding of an ongoing GRI research program at the Walt Disney World test facility to convert MSW, industrial wastes and sewage sludge to methane gas.

Thermal Conversion:

Technology for recovery of energy in the form of steam from burning of municipal solid waste (MSW) or refuse-derived fuel (RDF) is commercialized, but has limited application because the steam must be utilized on-site. The thermal conversion of RDF or MSW to a fuel gas is an attractive alternative.

Pressurized fluidized-bed gasification of RDF or MSW would provide high throughput, high conversion of organic carbon, and a fuel gas which can be used directly for combined cycle power generation or sold for off-site use. IGT recommends a research program to investigate pressurized, fludized-bed gasification of RDF and MSW utilizing an existing process research unit (PRU).

Because RDF is more highly processed than MSW, the program should begin by conducting parametric gasification tests with RDF to determine the effects of temperature and pressure on product gas quality, as well as an analysis of all process streams for potential pollutants. The data obtained for RDF will be helpful in directing the research for MSW, which contains inorganic materials in addition to the components found in RDF.

Feeder designs for MSW should be evaluated and gasification tests in an existing sloping grid bottom for the separation of the inorganic solids present in MSW should be conducted in an existing gasifier. The effects of seasonal variations in the composition of MSW should also be researched.

IGT recommends $2.0 million for thermal conversion of MSW or RDF in the existing high pressure inert fluidized-bed PRU.

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(1) residential heating where energy stored at off-peak rates could be used for heating during peak periods, thus leveling utility loads, reducing energy costs, and minimizing the need for new power plants/distribution capacity.

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IGT recommends $2.0 million to continue research on applying the composite phase change TES technology to industrial applications, specifically by increasing the heat storage capacity of the composite, constructing a PDU, conducting tests of the composite media, and using the PDU test data to initiate design of a cost-shared, proof-of-concept facility to be located at an industrial site.

Statement of Gentry Resources Corporation

Gentry Resources Corporation (Gentry) respectfully requests:

1. That Spring Canyon Pumped Storage Project, Lake Mead National Recreation Area, be denied further funding, under sponsorship of the Department of the Interior (DOI), the Bureau of Reclamation (BOR), and Western Area Power Administration (WAPA) and the Department of Energy.

2, That the Public Utility Regulatory Policies Act of 1978, (PURPA) 16 U.S.C. 2601-2645, be retained in its present form and with no Congressional mandated changes in the regulatory law implementing the same.

3. That consideration be given to enactments clarifying the respective powers, authority and responsibilities of the Federal Energy Regulatory Commission (FERC), the DOI, the BOR, and Department of Energy, and eliminating discrepancies and conflicts in the federal regulation of hydroelectric developments by private enterprise or non-federal interests.

4. That the exclusion of the Lake Mead area from provisions of the Federal Power Act, Colorado River Basin Project Act, 43 U.S.C. §1555, P.L.90-537 §605,be rescinded.

REASONS FOR REQUESTS

1 A. Gentry asserts that the DOI and BOR promulgated, planned, and otherwise sponsored the Spring Canyon Pumped Storage Project commencing on or about May, 1984, and continuing to present date, in contravention and in derogation of the express Congressional mandate set out in the Department of Energy Organization Act of 1977, P.L.95-91, 42 U.S.C. §§7152 (a)(E), that the power marketing functions of the BOR be transferred forthwith to the Secretary of the Department of Energy, and all other functions of the DOI with respect to such activity. The activities of the BOR directly relate to planning of the marketing of electric power using water from Lake Mead, and are violative of the official policy stated by Congress in the Act at 42 U.S.C. §7112 that the Department of Energy shall be responsible for and carry out planning, coordination, development and implementation of energy production, and in Senate Report No. 164 on P.L.95-91 which states "It is the purpose of this legislation to consolidate into one department the supply development responsibilities with respect to energy (including electric power supply)".

1 B. The BOR were the initiating government agency of the Spring Canyon Project, and were in such originating position at least one year prior to the entry of Western Area Power Administration (WAPA) into the program, and at present WAPA is the apparent sponsoring agency, having appointed the BOR as project manager in July 1985, or thereabout. This action by WAPA is not above criticisim in light of the prevailing Congressional Mandate on separation of agency functions.

1 C. Gentry is the first and only non-federal applicant (insofar as is known to Gentry) for preliminary permit to utilize water from Lake Mead, under its application for Black Mountain Project, FERC Project No. 7519-000. Gentry has been issued preliminary permit for feasibility processing on its Lake Pleasant Project, FERC Project No. 7587-000, in Maricopa County, Arizona. Gentry has engaged in rather extensive negotiations with most major utilities in Southern California, Arizona and New Mexico to further its development of Lake Pleasant Project, but at the same time anticipating a possible issuance of permit on its Black Mountain Project. The BOR has directly competed with Gentry by signing up the very same utilities for participation in construction and ownership of its Spring Canyon Project on Lake Mead. This violates the principle of allowing private enterprise to engage in hydro power development, by substantially hampering Gentry in its negotiations with such utilities. It seems that the BOR only honors this principle if it chooses the players or participants in such projects.

1 D. The DOI has asserted in regard to the implementation of Gentry's permit on the Warm Creek Project FERC Project No 7585-000 (Lake Powell) that FERC lacks authority to grant feasibility study permits or licenses on lands within National Recreation Areas, whereas the original and still in effect applicable Congressional law is that without further Congressional authorization, FERC has no authority to grant hydroelectric development permits or licenses in National Parks and National Monuments only, and the proper conclusion is that all other components of the National Park System are subject to the Federal Power act and FERC activities. This is an attempt by DOI to make new law, and contradicts the authority of FERC under the Federal Power Act. Not only is this an attempt to strain the law to the particular purposes of the DOI, but is a violation of the constitutional rights of Gentry under equal protection of the laws principles in light of the fact that the Spring Canyon Project of the BOR is in the same position of violating the purposes of the National Park System by involving lands with a National Recreational area. In all fairness if Gentry is denied such activity, so should the BOR and DOI be similarly denied such activity.

1 E. The requests by DOI and BOR for Congressional appropriations are a perfect system for seeking "absolution" and cure of their unwarranted activities in planning and promulgating the Spring Canyon Project. For this reason alone, Congress should deny the requests for any further funding of Spring Canyon Project or any activities connected therewith.

1 F. Information available to Gentry indicates that the proposed Spring Canyon Project will not be cost effective and will charge higher rates to the same service areas than Gentry's Lake Pleasant Project can provide, on a ratio of $1399 MW construction costs for Spring Canyon Project to $831 KW for Lake Pleasant Project in 1985 dollars. This is a very disparate projection. Additionally, if the utilities pay 100% of the construction costs of Spring Canyon Project under present plan, the question arises as to why should the government pay the planning and engineering costs for the utilities which are fully able to do this for themselves.

1 G. The completion of Spring Canyon Project will strengthen the cause of Gentry in asserting in the courts whatever rights it has to claim damages or other relief against responsible government officials for their unwarranted actions against Gentry.

2. Gentry may be forced to utilize the benefits of the PURPA law to avoid a loss of its time and expense involved in promoting hydroelectric developments under FERC permits and licenses. Should this law be repealed, or weakened, Gentry and many other small producers and entrepaneurs will be forced out.

3. Gentry, in the role of applicant for FERC preliminary permits to study feasibility on hydroelectric projects, and as the holder of two such permits, has endeavored to function under such legal privileges or rights, but has been severly hampered by the opposition of the DOI and its agencies. Gentry is caught in the middle of argument between FERC and DOI over the basic authority of FERC to authorize studies of FERC permittees, particularly in National Recreation Areas. This confrontation has cost Gentry years of time and many thousands of dollars, and is a situation requiring the attention of Congress. It is suggested that one agency be clearly granted full powers to authorize such activities, and whereas FERC has a complete set of regulations on the subject, and DOI has none (insofar as known to Gentry), it would be best to strengthen FERC authority in such regard.

4. The principle of equal protection of the laws is further violated by the BOR, stemming from its promulgation of Spring Canyon Project on Lake Mead, whereas, the Colorado River Basin Project Act §605 (43 U.S.C. §1555) denies application of the Federal Power Act (authority of FERC) to the area between Hoover Dam and Glen Canyon Dam (primarily Lake Mead), and does not grant any such authority to DOI or BOR except as may be seen in the original authorization of the Hoover Dam and attendant facilities. The exclusion of FERC should not thereby give carte blanc authority to the DOI and BOR for the same general purposes and activities, and Gentry is aggrieved by the actions of BOR and WAPA in this regard. It is submitted that whatever the original purpose of this exclusion of authority, its time has long since passed.

STATEMENT OF ROBERT M. ROSENZWEIG, ON BEHALF OF THE ASSOCIATION OF AMERICAN UNIVERSITIES, THE AMERICAN COUNCIL ON EDUCATION, THE NATIONAL ASSOCIATION OF STATE UNIVERSITIES AND LAND-GRANT COLLEGES, AND THE COUNCIL OF GRADUATE SCHOOLS

Mr. Chairman and members of the Subcommittee, my name is Robert M. Rosenzweig and I am President of the Association of American Universities. I submit this testimony in behalf of the membership of the Association of American Universities, the American Council on Education, the National Association of State Universities and Land-Grant Colleges, and the Council of Graduate Schools which represent virtually all of the nation's universities and colleges which carry out research supported by the Department of Energy. They also train most of the research scientists who carry on basic and applied research activities at American universities and in industry. I would like to present to you our views with regard to the FY 1987 budget request for DOE university research programs by first addressing some general concerns and then discussing them in the context of the DOE budget.

THIS IS NOT AN ORDINARY YEAR

I cannot recall a year in which budgetary matters were so filled with uncertainty, in which the whole process seemed headed toward a destination which no one in it could foresee, and in which the possibility of serious damage to important social institutions seemed so real. I do not believe that the DOE budget for research and university programs, or perhaps any other budget, can be considered by a Congressional committee without regard to responsibilities of the Members that go beyond their subcommittee and committee assignments and the agencies within their jurisdiction.

This is not an ordinary year. What most marks off this year from others is a pervasive sense of vulnerability that makes even good news suspect. Universities feel that vulnerability keenly because the harmful impacts of several essentially unrelated policy lines seem to be converging on those institutions. If those lines truly do meet, then there is the real prospect of serious damage to universities and to the intellectual activity they sustain.

One set of policies impinging on universities is that generated by deficit reduction pressures. Almost every federal program on which universities rely is slated for reductions. The proposed cuts will force either reductions in institutional programs or the increased subsidizing of those activities by other elements of the institution.

Second, the proposed revisions to OMB Circular A-21, which would cap particular components of indirect cost recovery, will hit the budgets of research universities heavily. If those rules take effect as proposed, losses in the millions of dollars a year will be incurred by some institutions, and virtually all universities will suffer noticeable reductions. Although the new rules may be prompted, in part, by the deficit pressures, the impetus for them predates the present crisis and really derives from a mistaken view that the costs of research that can be associated with an individual project are somehow more real and important than those that need to be pooled and allocated to all projects. That may sound to you, as it does to me, like a rather arcane bit of accounting theology, but unfortunately the effect of policies based upon it will be to starve the body while expecting the brain to continue to function. Such a policy will not work for long.

The third line of policy converging on universities is tax reform. The House-passed tax bill contains a number of provisions that will simultaneously cost universities more money and severely undermine their ability to raise money from private philanthropy. The deliberations that led to the passage of the House bill did not include considerations of education or science policy, but the effect of the provisions adopted must be taken into account by anyone who cares about the health of America's universities or the nation's capacities in science and technology.

The combination of circumstances I have described exposes universities to special and largely unintended jeopardy, an important fact to be considered by those who make policy for the nation.

What is to be done? The answers are: to support budget levels that will help sustain the enterprise through a difficult period; to help to prevent arbitrary, damaging, and non-negotiated changes in the principles that govern indirect cost recovery by urging OMB to enter into genuine consultation with affected parties; and to oppose changes in the tax code that would lessen the incentives for private philanthropy and thereby make it less likely that private efforts can compensate for the inevitable diminution in federal programs.

If we are to achieve solutions that will not just provide short-term relief but will also lay the foundation for sustained economic health, then I submit that it is necessary to begin to think of national budgeting in more than arithmetic terms. We do not put together budgets in private or public life solely in order to have them balance at the end. In all organizations except government, we distinguish between expenditures for current use and investments aimed at future return. Without that elementary distinction it is impossible to make analytical sense out of our national accounts or to know whether we are spending too much or too little. And if we are unable to do that, it is hardly any wonder that we are unable to come to grips with the question of how much money we need to raise as a nation in order to meet the demands of the present and the challenge of the future.

In that last sentence lies the key element in your efforts to find a broad and solid base for the future productivity of basic scientific and engineering research and training and therefore for the health of the institutions in which those take place. There is no coherent and realistic program for meeting the nation's real needs that does not take a hard look at revenues along with expenditures. We are not paying for what we need, and any solution that does not confront that fact will do more harm than good.

My remarks go far afield from the testimony that one would ordinarily give but I have done so because it seems to me evident that when you have finished work on this DOE budget, you will, as Members of Congress, face an agenda that is even more important to science and to universities than the annual budget of any single agency can be. I urge you to bring to those larger issues the same purposes and perspectives that move you to believe that the university research programs of the DOE merit your support. More than at most times, this year's motto must be, "One war, many fronts."

WHITE HOUSE SCIENCE COUNCIL REPORT ON THE HEALTH OF UNIVERSITIES AND COLLEGES

I would like to call to your attention an important new report, soon to be published, by the White House Science Council titled A Renewed Partnership. Chaired by Mr. David Packard and Dr. D. Allan Bromley, the report is an examination of the health of our universities capabilities to meet our future requirements for well trained talent and new knowledge.

The Council's report reaffirms a fundamental fact: our universities and colleges are important to our national interest because they produce the scientific and technical talent essential to our economic productivity, our technological progress, our health, our national security, and ability to compete in the international marketplace. However, there are troubling signs that our universities capabilities to attract and educate the best students in science and technology are being steadily eroded. Problems associated with obsolete equipment, outdated laboratories and increasingly severe shortages of advanced students and faculty continue to hamper us in essential fields of science and engineering.

We will all do well to consider thoughtfully the implications of the Council's sobering conclusion: **"Our universities today simply cannot respond to society's expectations for them or discharge their national responsibilities in research and education without substantially increased support."**

We face a shortage of highly trained people, our richest resource. At current production rates, and in the face of a declining student pool, we face serious shortfalls of trained scientists and engineers. The NSF reports that continuation of present policies and practices may well yield a drop from 1983 of nearly 700,000 bachelor-level scientists and engineers by the year 2011.

We are failing to attract sufficient numbers of U.S. citizens, especially minorities and women, into advanced training in science and engineering. The recent NSF report Science Indicators 1985 states that between 1980 and 1983 total full-time enrollment in graduate engineering and science programs grew by 6 percent; however, 85 percent of this increase is accounted for by foreign students. In 1983, foreign students accounted for about 40 percent of total graduate enrollment in engineering, mathematics and computer sciences. More than one-half of PhD degrees earned in engineering now are awarded to foreign nationals. As undergraduate enrollments in engineering, computer science and related fields are climbing to record highs, we are increasingly dependent upon foreign nationals to teach them.

A recent report of The Engineering Education Task Force (formed by the National Society of Professional Engineers, the American Society for Engineering Education and the National Association of State Universities and Land-Grant Colleges) reports that: while student enrollments have grown more than 115 percent over the past fifteen years, faculties have grown by only 10 percent; as much as a 23 percent increase in faculty positions is needed to bring the student-faculty ratio close to optimum teaching conditions; and the ability of entering engineering students--the majority of who are in the top 10% of their high school graduating classes--is helping, but only somewhat, to offset present limitations.

The cause of this is because we are underinvesting in academic research and advanced education. In 1984, only $8.4 billion of the nearly $100 billion invested in research and development nationally, was invested in universities. Despite overall gains of about eight percent in FY 1984, overall Federal investment in universities and colleges continues to decline as a percentage of total Federal R&D. Nevertheless, Federal agencies are, and will remain, the primary source of investment in basic science and engineering.

Recently, Dr. Alan Bromley, CoChair of the White House Panel, reported that, if present levels of Federal investment are sustained for a decade we will fall "an order of magnitude short" of meeting our needs in the 1990s. The research agencies of the Federal government, the Council concludes, are the only source of funding for the needed investments. The Council recommends that federal investments in university research and training programs be doubled to seize the unprecedented opportunities for scientific and technological progress.

Each of the following recommendations of the White House Science Council Panel has immediate implications for the FY 1987 Appropriations for the DOE. The Council recommends that Federal research agencies take the following steps:

- increase substantially investments in universities and colleges,
- establish university-based interdisciplinary, problem oriented research and technology centers,
- bear the full share of the cost of university research,
- establish policies that recognize university infrastructure (research facilities and equipment) costs as integral to university research,
- minimize burdens and expand the flexibility of the administrative arrangements for the support of research,
- establish substantial programs of multi-year, merit-based graduate fellowships in science, mathematics, and engineering, and
- encourage interdisciplinary activities at the graduate level.

RECOMMENDATIONS

Mr. Chairman, we endorse the recommendations of the Science Council, and we urge the Subcommittee to incorporate them into the FY 1987 Appropriations for DOE:

Basic Research Programs

The basic research programs of the Department of Energy have and continue to make significant contributions to this nation's technological advancements and, in the process, train the graduate students who will carry forward the nation's research and development efforts. The programs of the Office of Energy Research (OER) provide over 85% of DOE's total funding of direct awards to universities for the conduct of R&D. These programs support important long-term basic science research in several disciplines including high energy physics and nuclear physics. Continuity of support is essential to the long-term nature of this research.

The proposed budget for OER programs, with the exception of the Magnetic Fusion program, provides for continuity in research funding. The proposed budget of $441.4 million for Basic Energy Sciences is only $7.6 million (2%) higher than the current level of $433.8 million but follows some significant growth in the program over the last few years.

The proposed budget of $773.4 million for General Science programs is $118 million (18%) higher than the current level of $655.4 million. The $546.7 million request for High Energy Physics is $51.9 million (10%) higher than the current budget of $494.8 and will bring that program back to a level approximating the FY 1985 level of $541.9 million. The proposed budget of $224.2 million for Nuclear Physics is $59.7 million (36%) higher than the current budget. The increase provides continuity for the research program and includes $33 million for first year construction funds for the Continuous Electron Beam Accelerator Facility (CEBAF).

The proposed budget of $333.0 million for the Magnetic Fusion program is down $32.4 million (9%) from the current level of $436.9 million. The reduction will affect applied plasma physics and magnetic mirror technology activities at several universities and Lawrence Livermore Laboratory.

At a minimum, we ask that the Committee support these program budgets at the Administration's requested levels.

Graduate Education

The federal commitment to excellence in engineering and science education supported by federally funded fellowship programs has eroded. In 1983, federal agencies supported only 20% of the number of graduate fellowships awarded in 1968. Of those supported, only 1,600 were in engineering and science. DOE supports only about 25 such fellowships in narrowly defined fields. We believe that the DOE should strengthen its commitment to graduate education along the lines recommended by the White House Science Council, and we urge you to consider the need for a DOE graduate fellowship program.

The best approach, we suggest, would be a two-part program to provide for (1) portable, three-year graduate fellowships awarded to students based on their demonstrated achievements and future promise; and (2) department traineeships competitively awarded to strong departments that carry out DOE-funded basic research programs. Such a program would link talented students to proven, productive departments in a way that would strengthen our national capacity for both research and advanced education in energy-related fields. Both the National Science Foundation and the DOD's Office of Naval Research (ONR) have strong merit-based, portable graduate fellowship programs that are good models.

University Research Instrumentation and Facilities

The research capital deficit continues to be the most pressing problem facing universities. For more than twenty years, no Federal research agency has reinvested broadly in the modernization of university laboratories engaged in its competitive research programs. After taking the effects of inflation into account, the real level of capital investment by our universities has declined 20 percent in ten years. In FY 1974 the Federal agencies provided 27 percent of the total facilities funds spent by universities; in FY 1984 the Federal share was only 12 percent, and essentially all of these funds were dedicated to specialized facilities.

Because federal agencies have recognized the serious consequences posed by obsolete research equipment, important progress is being made on the equipment problem. In FY 1984, universities spent $518 million for research equipment, an increase, according to NSF, of 15 percent in constant dollars over 1983 levels. Federal research agencies supplied about two-thirds of these funds. After many years of neglect, Federal investment research equipment again is growing at a reasonable rate.

The magnitude of the research equipment problem is illustrated by DOE's Research Instrumentation program which continues the essential effort to upgrade university research instrumentation. For this year's program, the Department has received 204 applications from 103 institutions. The average application request is $244,000; the requests total $49.8 million. With its current budget of $6.2 million, the Department estimates that it will be able to make approximately 25 awards.

We are particularly grateful for the support this program received last year by the Congress which added $2 million to the FY 1986 requested budget. The proposed request of $5 million for the Research Instrumentation program is down $1.2 million (20%) from the current budget level. We encourage the committee to support, at a minimum, the University Research Instrumentation program budget at a level equal to the current budget of $6.2 million.

Expanded direct investment in research facilities and equipment must be accompanied by further improvements in the utilization of available funds and instruments. Last summer the AAU, the National Association of State Universities and Land-Grant Colleges and the Council on Government Relations published a report titled

Financing and Managing University Research Equipment. It suggests several steps that might usefully be taken by funding agencies, state governments, industry and universities to strengthen the acquisition of equipment and improve the utilization of costly research instruments. We commend this report and its recommendations to the Committee's attention.

The future return on all of these essential investments will be determined, in large part, by the soundness of the decisions that the Congress and the DOE make in the award of the funds. The funds for research, instrumentation, and facilities ought to be awarded on the basis of scientific merit in open competition among all interested and qualified parties. Final judgments ought to be formed in an objective and informed manner, free from any actions that could serve to make the award of such funds a matter of political influence rather than the quality of the work to be done and the capacity of competing applicants to carry out the work at the highest level.

I urge that the Committee insist that decisions about funding be guided by the goal which I know we share--the need to produce the highest quality science and engineering of which we are capable as a nation.

Thank you for the opportunity to submit this testimony to the subcommittee.

STATEMENT OF RICHARD F. WALKER, PRESIDENT, PUBLIC SERVICE CO. OF COLORADO, AND CHAIRMAN, GAS-COOLED REACTOR ASSOCIATES

Mr. Chairman and Members of the Subcommittee, my name is Richard F. Walker, and I am President of Public Service Company of Colorado and Chairman of Gas-Cooled Reactor Associates (GCRA) which is a utility/user organization that supports the development and commercialization of the High Temperature Gas-Cooled Reactor (HTGR).

GCRA's goal is to ensure that the HTGR is established as an attractive commercial alternative for a broad range of applications in a timely manner. The approach to achieving this goal has been to establish a National Project after which commercial plants can be deployed. During the past several years, the focus of the collective efforts within the HTGR Program has been to develop an HTGR design that is responsive to the utility/user's requirements, eases the current institutional difficulties associated with nuclear power and optimally capitalizes on the HTGR's unique characteristics.

As you know, the result of this effort has been the establishment of the Modular HTGR (MHTGR) as the reference concept for near-term development and deployment emphasis. The strong consensus of support within the Program participants and the broad utility support for the MHTGR is reflected in the recent Joint Participants' Statement to this Committee and the other Congressional Committees which have oversight responsibility for the HTGR Programs at the DOE and the NRC. We heartily endorse the Joint Statement and are proud to have coordinated its preparation and submittal. A copy of the Joint Statement is attached for the Congressional Record.

As a supplement to the Joint Statement, I would like to expand on GCRA's Project development activities. From its inception, GCRA has sought to establish a National HTGR Project that would be based on an equitable cost/risk sharing between the utility/user industry, the vendor/AE industry, and the Government. While the overall environment for any civilian nuclear project has become increasingly difficult and the proposed FY 1987 budget proposals from DOE would appear to discourage our Project interests in particular, we remain committed to pursue an MHTGR Project initiative. This position is based on our conviction that the merits of the MHTGR are worthy of a National Project.

Fundamental to the MHTGR concept is the ability to build a one-module Demonstration Project, at relatively minimal cost, as the demonstration basis for multi-module commercial plants. Through an initiative begun by TVA and expanded by GCRA, the plans for such a one-module Demonstration Project are being advanced through an ongoing MHTGR Project Definition Study. Phase I of this Study was begun last August and completed in February and was supported by all the private-sector Program participants. Through this Study, the following Project objectives have been established:

1. Demonstrate HTGR-Unique Licensing Process and Support the Design Certification for the Standard Nuclear Island.
2. Demonstrate Plant Performance Characteristics.
3. Demonstrate Operation and Maintenance (O&M) Activities.
4. Establish MHTGR Vendor and Basis for Commercial Plant Cost and Schedule.
5. Establish Utility/Investor Confidence to Buy Commercial Plants.

The Project Definition Study has established an initial definition of the Project's requirements and scope, an initial detailed estimate of the costs and schedule, and the overall benefits and specific limitations of the prospective MHTGR Demonstration Project. Summary results are reported in the Joint Statement and further details are available upon request.

The Study results are being used as the basis for the ongoing development of a Project Strategy Plan. If successful, the Project Strategy Plan will become an agreed-upon foundation for the prospective utility/user based Project Company, the prospective vendor/AE based Supply Company and the Government to establish a Project-based Program and to commit their respective financial support to the Project.

Crucial to the furtherance of the MHTGR Project initiative is stable Government support. Accordingly, GCRA respectfully recommends that Congress provide $32 million, including one million for capital equipment, for continued MHTGR development within DOE's Advanced Reactor Program in FY 1987. Further, the DOE Program should remain focused on the reference MHTGR plant design and licensing development and supporting technology development. The primary goal of the DOE Program in FY 1987 should be to obtain a licensability statement from the NRC. This will determine at an early stage whether the NRC accepts the proposed licensing criteria, the supporting safety analyses, the technology development plan, and the role of the prospective MHTGR Demonstration Project in supporting the design certification for subsequent commercial plans. These results will be essential to the private-sector participants in the development of their commitments to the MHTGR Project. In addition, it is recommended that $2 million be provided to the NRC for the licensing review activities leading to their issuance of the licensability statement.

While these budget levels will not support an aggressive Project schedule, it will sustain the existing resource base and communicate Program stability that will be invaluable for the continued development of the private-sector Project initiative.

Mr. Chairman, I appreciate the opportunity to present the utility/user support for and perspective on the HTGR Program to your Subcommittee. With your continued support, we will bring to fruition an HTGR Program that is responsive to utility/user needs and the Nation as a whole.

JOINT PARTICIPANTS' STATEMENT ON THE HTGR PROGRAM TO CONGRESSIONAL OVERSIGHT COMMITTEES

A secure, stable, and economic energy supply is vital to National security and economic well-being. Other developed countries have recognized that nuclear power is an important resource in providing this necessity. In particular, other industrialized countries such as Japan, Germany and France, as well as emerging industrialized countries such as Taiwan and Korea, have undertaken ambitious, sustained nuclear power programs to assure their citizens and industries the advantage of reliable, inexpensive energy; to reduce the constraints of dependence on foreign sources for essential commodities; and to foster their nuclear industries' competitiveness in the international market. Also, the Soviet Union and other industrialized socialist countries are continuing a methodical development and deployment of nuclear power for a broad range of energy applications.

The U.S. is struggling with how to revive its civilian nuclear power resources. Without presuming to offer a panacea, we point out that there is a clear need for stable licensing requirements and less onerous licensing procedures; easily understood and acceptable risks to investors and the public; and plant sizes, invested capital, and construction schedules that are consistent with current load growth and financial realities.

The Modular High Temperature Gas-Cooled Reactor (MHTGR) is well suited to fulfill these needs. Its core size and power density are limited by design such that the ceramic coatings of the fuel particles retain the fission products to an acceptable degree under all licensing basis events, with decay heat removal being accommodated by the passive mechanisms of radiation and conduction. This feature will simplify the overall concept, particularly the licensing and operations activities. In addition, safety related systems and components are minimized and are contained within a compact, standardized nuclear island. Major portions of the nuclear island can be shop fabricated and assembled to nuclear standards, facilitating enhanced quality assurance. The balance of plant is physically separated from the nuclear island and may be manufactured and constructed to conventional fossil plant standards. This will improve productivity, shorten the construction schedule and reduce field erection costs. The nuclear island is composed of independent reactor modules that can be constructed sequentially or as a cluster to more closely match load growth requirements and the utility's financing constraints. This feature will provide added flexibility and reduced financing risk that is most desirable in the current era of uncertainty for U.S. utilities' load growth forecasting.

The MHTGR is also well suited to supply high quality steam, broadening its market through cogeneration or direct steam/heat supply. In addition, the MHTGR has the unique nuclear capability for advancing to closed-cycle, gas turbine and high temperature process heat applications. Further, the MHTGR can be economically deployed on a once-through, low-enriched uranium fuel cycle and converted to fuel recycle and/or high-enriched fuel cycles as economics, facilities and policies warrant. Considering the profound potential contributions to National energy security; the investment to date and the relatively modest added investments that are required; the potential for international cooperation on the remaining development and demonstration as well as the broader international market potential, the Program participants submit that the continued development of the MHTGR is worthy of National commitment.

At the present, the MHTGR is undergoing its initial stage of design and licensing development. As a result of a thorough evaluation effort completed during FY 1985 within the DOE HTGR Program, the 350 MWt prismatic annular core MHTGR has been established as the reference design for U.S. development and near-term deployment. This concept makes maximum utilization of the HTGR technology, design and demonstration experience established in the U.S. The reference plant design adopts four reactor modules and two steam turbine generators for a nominal output of 550 MWe. The evaluations performed to date indicate the plant design can meet the performance, investment protection and economic requirements established through Gas-Cooled Reactor Associates (GCRA), the utility/user organization that supports the development and commercialization of the HTGR.

Ongoing DOE Program activities should remain focused on the development of the reference design and key technology areas to support the preparation of a Preliminary Safety Information Document by the end of FY 1986 for formal review by the NRC in FY 1987. The goal of that review is the issuance of a licensability statement by the NRC for the MHTGR. That will determine at an early stage whether the NRC accepts the proposed licensing criteria, the supporting safety analyses, and the MHTGR's technology development plan, including a demonstration project. Those results will be essential to the private-sector participants in the development of their commitments to the demonstration and deployment of the MHTGR.

As a complement to the DOE Program, GCRA, with cost sharing support from other industrial participants, has undertaken an initiative to develop a one-module Demonstration Project. Through successful demonstration of the licensing, construction, performance, costs and schedule of such a plant as well as the associated development of an industrial infrastructure, commercial MHTGR plants will become a reality. Estimates to date indicate that such a Demonstration Project, including several years of operation, would cost approximately $700 million ('85 dollars) with an additional $115 million ('85 dollars) required for supporting technology development. Without resource constraints, a Project could begin construction by 1990 and startup in 1994. Initiation of parallel commercial activity would permit commercial units to be deployed by the turn of the century.

Ongoing Project development activities are focused on detailed demonstration requirements and plans, establishment of Project management and supply entities, and the establishment of a Project Strategy Plan that will address cost/risk sharing arrangements. It is recognized and accepted that the key to the success of the Project is the ability of the private-sector participants to raise a significant fraction of the Project funds.

Crucial to the furtherance of any U.S. MHTGR Project initiative is stable Government support of the reference plant design and licensing development as well as the associated technology development that supports both the Project and long-term higher temperature applications. Accordingly, it is respectfully recommended that Congress provide $32 million for continued MHTGR development within DOE's Advanced Reactor Program in FY 1987. In addition, it is recommended that $2 million be provided to the NRC for licensing review activities. While this budget level will not support an aggressive Project schedule, it will sustain the existing resource base and communicate Program stability that will be invaluable for the continued development of the private-sector Project initiative and will foster the prospects for international cooperation. This recommendation is submitted within the context of a balanced, affordable U.S. nuclear strategy that deploys improved light water reactor systems for the near-term and maintains a development program for a long-term nuclear fuel breeder.

This Joint Statement is respectfully submitted to the Congressional Committees with oversight responsibility for the Nation's nuclear power development programs as evidence of the major participants' unified support for and recommendations on the HTGR Program.

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Chairman, Gas-Cooled Reactor Assoc.

J. L. Everett
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C. H. Dean, Chairman, Board of Directors
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Donald E. Lyons
Donald E. Lyons, President
Power Systems Group
Combustion Engineering, Inc.

H. H. Wahl
Howard Wahl, Vice President & Director
Bechtel Power Corporation

STATEMENT OF THE AMERICAN PUBLIC POWER ASSOCIATION

The American Public Power Association, the national service organization representing more than 1,750 local publicly owned electric utilities in 49 states, submits this statement to the Subcommittee on Energy and Water Development concerning FY 1987 appropriations.

SUMMARY AND SPECIFIC RECOMMENDATIONS

APPA is primarily interested in three aspects of the Administration's FY 1987 energy budget:

1. The Association opposes the proposal to "privatize" the federal power marketing administrations. Sale of the nation's hydroelectric assets would neither reduce the deficit burden nor increase efficiency in the electric utility industry. It would, however, have significant adverse economic consequences for homes, businesses, and farms in a large part of the United States.

2. The Association supports the appropriations request of the Federal Energy Regulatory Commission, but questions imposition of expanded user fees. The federal government has a statutory obligation to regulate monopoly utility services to ensure that consumers are protected and pay no more than what is just and reasonable for the services received. Charging consumers "user fees" for this protection is inappropriate, particularly in view of the fact that Congress has not passed legislation authorizing most of these proposed collections.

3. The Association endorses appropriation of sufficient funds to permit the Tennessee Valley Authority to pursue effectively the non-power economic and resource development programs authorized by the TVA act. The drastic reductions proposed by the Administration for FY 1987 will stifle, if not eliminate, vital activities which aid the national and regional economy and protect the environment.

APPA requests the subcommittee to consider the following in preparing the Energy and Water Development Appropriations bill for Fiscal Year 1987:

- Prohibit the expenditure of funds for studies or the preparation of proposals relating to the sale or transfer of the federal power marketing administrations without specific prior legislative authorization.

- Review the user fees and annual charges proposed to be collected by FERC to ensure that such fees are actually paid by the beneficiaries of the Commission's activities and are not pushed off on captive utility customers.

- Support TVA's non-power program with adequate funding.

SALE OF THE POWER MARKETING ADMINISTRATIONS

Despite opposition from key members of Congress, the Administration has set up an elaborate bureaucracy to come up with plans to sell the federal power marketing agencies (PMAs).

DOE officials have outlined an extensive four-level "Asset Divestiture Organization" to consider the PMA sales. It includes a "Senior Management Group" chaired by the DOE Under Secretary and supported by a "Headquarters Staff" of federal employees to deal with questions of procurement, administration, personnel, legal, congressional and intergovernmental relations, environment, safety, and health. The management group will have as "Senior Advisors" representatives of the Departments of Interior, Army, Justice, Treasury, and Commerce, plus the Office of Management and Budget and the Council of Economic Advisers, and will channel its work through the Domestic Policy Council headed by Attorney General Edwin Meese.

An "Asset Divestiture Group" has been established in DOE at a secondary level headed by an Executive Director. In addition to the internal resources of DOE, the group plans to hire outside private sector experts in the manner of the proposed Conrail sale. It is suggested by DOE that the price of such expertise could run as high as $5,000 a day for individual investment specialists, $500,000 a year for a firm, and one-half of one percent on the sale price in the event that a transaction takes place ($330 million if the PMAs were sold for the price recommended by the Heritage Foundation).

High-ranking federal officials with responsibility for the PMAs will constitute a third-level structure of "Program Officials," and at the fourth level there will be "Working Groups."

The exact number of individuals expected to work on this project and the total estimated cost of their activities are not specified, but there is no doubt that the contemplated studies involve a very large number of personnel and significant outlays of public monies. APPA believes that if these large expenditures are to be incurred, they should be explicitly authorized first by Congress.

To counter this expenditure of time and money on a clearly wrong-headed plan, APPA proposes language similar to Section 505 in last year's appropriations measure prohibiting funds for studying market pricing. The new language would prohibit expenditure of funds for conducting studies leading to privatization or transferring out of federal ownership, management, control, or operation the federal power marketing administrations in the absence of new legislation specifically authorizing such action.

Such an approach would be similar to that already taken by the Administration regarding its proposal to utilize straight-line amortization in repayment practices of the PMAs. DOE Secretary John Herrington and DOE Assistant Secretary Donna Fitzpatrick have both told Congress that this step will not be taken administratively, but will be implemented only if Congress passes and the President signs enabling legislation. This was also the procedure followed in the case of Conrail, where Congress approved legislation authorizing a study of sale of the system.

While implementation of the Administration's current proposal to "privatize" the PMAs would produce no revenue in FY 1987, it would create expenses. In view of the fact that the plan lacks merit on its face, it seems logical for the Congress to prohibit spending money on its advancement until -- and unless -- the Administration makes a convincing case for studying the question.

APPA believes the proposal should be discarded because it would:

- Escalate electric rates and disrupt the economy.
- Eliminate a dependable source of revenue to the Treasury and not in any way solve the budget problem.
- Threaten the power supply of over 1,100 consumer owned utilities and gut competition.

"Privatization" would escalate electric rates and disrupt the economy. "Privatization" of the five federal power agencies will cost electric consumers from $2.2 billion to $12.6 billion annually in higher electric rates. Rate increases of this magnitude would be a devastating blow to millions of residential and business consumers in 34 states. It would seriously disrupt an already shaky farm economy, drive some industries abroad, reduce tax revenues, make foreign energy sources more competitive, and weaken competition in the electric industry.

The "rate shock" would be massive, based on even the minimal price tag of $13.9 billion suggested in the President's budget. This sales price assumes that the federal system would be sold for the government's remaining unamortized investment in the power facilities. That would be similar to a homeowner selling his house for the amount remaining in the mortgage.

Assuming this bargain basement sales price, we estimate that the cost of federal power would rise by about 68 percent, or some $2.2 billion a year. This increase would result from the fact that the new owners would have to trade existing interest rates, which are relatively low because the projects were financed many years ago, for the much higher private financing costs that prevail today. Private, profit-making companies would also require a return on their equity, and would have to pay federal taxes which are not required of a federal project.

However, Administration spokespersons have said that the price to be paid for the federal facilities is open for negotiation. If the Administration were to follow the advice of one of its favorite "think tanks," the Heritage Foundation, the price set for these federal investments would be $65.9 billion. Sale of the five federal power marketing agencies to private companies at this price would boost federal power costs by about 390 percent, or about $12.6 billion annually.

An estimated 38 million Americans would be affected by these rate increases at either level. The ripple effect on residential consumers, businesses, industries, and farms would be felt throughuut the nation's economy. The extent of this impact was detailed in a study by the Washington, D.C., economic consulting firm, John Wilson & Associates. The study, commissioned by the American Public Power Association, showed that "privatization" of the power agencies would affect more than 265,000 manufacturing, commercial, and service businesses in the 34 states served by the consumer owned utilities that purchase federal power at wholesale. These businesses -- large and small -- employ 3.2 million people and have total sales of more than $325 billion. In addition, more than 1.3 million farms, which in 1983 produced farm products valued at $73 billion, are served by rural electric cooperatives which buy federal power. All of these are considered to be conservative estimates.

Last week, the Governor of Idaho, John Evans, pointed out that uncertainty created by continued discussion of privatization of the Bonneville Power Administration is having an adverse effect on the Pacific Northwest. In a speech to the Western States Water and Power Consumers Conference, he said:

> "I also think that we must recognize the potential harm that is being done to our economy by the threat of sale. The battle to 'milk' the BPA cash cow has become an annual affair. It is quite unsettling to consider the impact that the prospective sale of BPA must have on the capital expansion plans of businesses both within and without the Pacific Northwest.
>
> "Our region has just gone through 10 years of substantial effort to enact and implement the Northwest Power Planning Act. The inflationary trauma of the '70's and early '80's is just now settling out in the form of higher, but stable power rates. The Northwest economy is not now in any condition to serve as a point of ideological experimentation. More than anything our region needs to establish a stable economic environment so that business development can proceed on a rational and reasoned basis."

Sale of the PMAs would have costly impact on the cost of federal services because 55 federal agencies are direct customers of the PMAs, and dozens of other federal installations are served by consumer-owned systems which buy federal power.

Taking only the 55 direct service federal customers, a 68 percent increase in PMA prices would add $80 million annually to an existing federal electric bill of $117.8 million. If the percent increase were 390 percent, then the federal government would pay additional annual costs of nearly $460 million.

"Privatization" would eliminate a dependable source of revenue to the Treasury and will not help the budget situation. The federal power systems are revenue-producing assets. They pay their own way. Indeed, federal power revenues help pay for many non-power functions. Under the law, the federal power agencies are obligated to return all costs of construction -- including principal and interest -- over a 50-year period, as well as the operation and maintenance expenses. Of the total investment of some $15 billion, 20 percent has been repaid, plus an additional $5.3 billion in interest. Repayment is on schedule for each of these agencies. Last year alone, they returned to the government more than $1 billion in principal and interest.

Although production of electric power has been one of the principal functions served by the federal water projects, they also provide a number of other important public purposes including irrigation, flood control, navigation, municipal and industrial water supply, wildlife enhancement, recreation, and salinity control. Revenues from the sale of power have helped make it feasible to build these dams which provide non-power as well as power functions. It is clear that the government would have to continue to provide the non-power functions, but meanwhile would have dumped the long-term money-making service in exchange for a one-shot cash payment.

"Privatization" would threaten the power supply of over 1,100 consumer owned utilities and gut competition. Competition in the electric utility industry was one of the major justifications for consistent congressional support for the federal power marketing policy which requires that federal power be sold first to consumer owned electric utilities -- local public power systems and rural electric cooperatives. This first right of purchase assures these utilities a secure source of power which helps preserve these entities as yardsticks against which all can measure the performance of competing investor owned utilities. This type of competition benefits all consumers.

Sale of PMAs would clearly reduce competition within the utility industry. It seems obvious that the large investor owned utilities (many of which are "cash cows" at the present time) would have a tremendous financial advantage in buying the PMAs over the much smaller local public power systems and rural electric cooperatives. Unlike the PMAs, new private owners would have no obligation to offer federal power to local public power systems and rural electric utilities. These consumer owned utilities would therefore be denied a reliable source of reasonably priced wholesale power. It is doubtful whether many of the smaller local public power systems and rural electric coops would survive this loss of power supply.

Sale of the PMAs will likely increase the concentration of control over the utility industry within the hands of a few large private power companies, and thus a major benefit of competition -- increased efficiency -- will not occur.

Further, sale of PMAs will diminish efficiency by divorcing power production from all other project purposes and by dismantling the current integrated utility operations of the PMAs.

FEDERAL ENERGY REGULATORY COMMISSION

FERC's budget request is $99.1 million, and $78.8 million would be offset by user fees and annual charges. This represents an 80 percent offset to FERC's appropriations and an increase in user fees and annual charges of $29 million over FY 1986. Of this $29 million increase in fees, FERC anticipates $26.5 million from legislation not yet enacted which would authorize FERC to impose annual charges on jurisdictional natural gas pipelines, oil pipelines, and electric utilities.

We urge this subcommittee to examine thoroughly FERC's estimated receipt of fees to assure that such fees are appropriate and do not impose hardships on consumers, the intended beneficiaries of FERC's regulatory activities.

FERC's anticipation of charging fees for regulating wholesale electric rates is critically important to the more than 900 public power systems that buy part or all of their power from investor owned utilities. In all probability, investor owned utilities will account for these user fees as a cost-of-doing-business expense and will pass on those charges to public power systems which buy wholesale power from them.

Parts II and III of the Federal Power Act were passed by Congress to protect the public interest and prevent the abuse of monopoly control in the wholesale power market. This is an essential role for the federal government to play. The beneficiaries are the public at large, and, therefore, this function should be paid from general Treasury revenues and not from special assessments which will, in the end, not be paid by the private utilities against which the assessments are made, but by a limited group of their customers -- that is, wholesale power purchasers.

TVA'S NON-POWER PROGRAM

TVA's non-power budget has been substantially reduced every year for the last several years. These activities include economic development, water quality control, agricultural land management, pollution control, forestry, flood plain management, and natural resource and fertilizer development among others. We urge this subcommittee, as it has done in the past, to reject the Administration's cuts and appropriate funds adequate to allow TVA to carry forward these programs.

TVA's non-power activities improve food production efficiency, create jobs, and enhance recreation opportunities with both regional and national benefits. Over the last five years, the program has been cut by one-third. APPA urges that the Administration's proposed 50 percent cut be rejected and funding levels in FY 1987 be maintained at FY 1986 levels.

STATEMENT OF ANTONINE LAFATA SOTTILE, PH.D., DOCTOR OF ENGINEERING

Mr. Antonine Lafata Sottile
Ph. Doctor of Engineering
P.O. Box 28292
Washington, DC
20005-0292

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Washington, DC. - February 9. 1986 -

Honorable Congress of The U.S.A.
SENATE Appropriation Committee
Energy and Water Development
Sub-Committee - Washington, DC. 20510 -

REF. Application to Appropriate
$. 25. Million in Fiscal Year 1987
in order to work 2. Initiatives of
emergency Importance to reach
National Energy Independence

Honorable Chairman and Members of the Committee

I am Mr. Antonine Lafata Sottile
Ph. Doctor of Engineering

First Initiative : A Solar Mirror settled in Earth's synchronous ORBIT will beam Sun radiation 24. hour/day to a Field of Photovoltaic ARRAYS, and could multiply their efficiency to 20. KWH. per square meter per day, from the goal of 5.KWH/m^2 xday still to be reached with ordinary intermittent Sun radiation.
Page 2. of this Report outlines my Project of BEAM-splitting FILTER/MIRROR Concentrators in Earth's synchronous Orbit, which select a portion of the Solar spectrum, reject the remainder into Space, and Focus the selected Beam to a FIELD of Photovoltaic ARRAYS, at Earth's surface.
The selected, uninterrupted Beam presents the Frequency appropriate to the BAND-GAP of available either CELLS or THIN FILM, covering the ARRAYS.
The higher frequency to the higher Band-Gap. Efficiency could reach 30. KWH/m^2 x day

Second Initiative :

To build a WAGON EUREKA, electric Vehicle, prototype, my INVENTION, assuring enormous savings of Energy in Railroads and Highways, by exploitation of Gravity.
Wagon EUREKA, through my ATLAS Interchange, to provide uninterrupted Traffic in Highways and Urban Areas.
Page 3. of Report outlines their design and their application to my PROJECT of a Network connecting Union Station to the 4. important Airports around Washington : Dulles, Friendship, Andrews, and National, through appropriate TUNNELS.
TRAVEL times lowered to few Minutes. Future improvements, next Century, as Flying on the Electro-Magnetic field, through VACUUM could lower Travel times to few Seconds

Page 4. reports the application of the MHD. (Magneto Hydro Dynamic) Generator to yield Electricity, without heavy rotating Copper Armature, by means of a flowing PLASMA (Gas at high temperature: over 2530° C°). Efficiencies of 50 % to 60 % compared to 25 % in nuclear Plants, and 35 % in coal fired Plants.

The Solar-Driven LIQUID-METAL MHD. Generator (See NASA Tech Brief) presents advantages over the quoted ordinary MHD. : The HEAT sources of the Solar MHD. are very low, in the range of 86. degrees centigrades, through the FREE Solar Fuel. The Liquid Metal in the Solar MHD. is 10,000 times more conductive than the PLASMA in the ordinary MHD., which needs a more powerful Electro-Magnet than the Solar MHD.

Page 5. summarizes my 16. Statements before this Honorable CONGRESS, detailing numbers of Senate and House Records and pages of my Statements, which have been methodically "TABLED", with huge damage to this Country.

Works opportunities, savings of energy, and profits for thousand years, assured by my PROJECTS, exploiting gravity in transportation and the FREE Solar Fuel. Authorities and Staffers should remember in their interest that with the flowing of time, the importance of my PROJECTS augments

THANK YOU
•••••••••

Honorable SENATORS, Members of the COMMITTEES
on : Appropriations - Budget - Commerce, Science,
and Transportation - Energy, and Natural Resources -
- Environment, and Public Works -

(5)

- 16) FY. 1986 HOUSE Record Part 9. pp. 3132 to 3141 - Hearings April 3. 1985 -
- 15) " " SENATE " " 3. " 2693 " 2702 " " " " -

My Project to connect UNION STATION with the 4. more important AIRPORTS around DC., linked by a network of underground Tunnels, exploiting Gravity, through WAGON EUREKA, my INVENTION. See Outline 3. Travel times down to few Minutes. Advanced improvements, next Century, as Flying on the Electro-Magnetic Field, and VACUUM, could bring down Travel times to few Seconds. My ATLAS Interchange, also outlined there, eliminates all Stopping-lights, and provides UNINTERRUPTED TRAFFIC in Highways and URBAN Areas.

- 14) FY. 1985 SENATE Record Part 4. pp. 2431 to 2436 - Hearings April 5. 1984 -
- 13) " " " " " 8. " 1430 to 1436 " " " " -

Technological, Environmental, and Economical Impact of my PROJECTS: their Importance increases by passing of time, being based on the 7. Immortal Principles to solve forever problems of Energy and Economics: 1.Solar Energy 2.Electrification 3.Electro--Magnetic flying 4.En.savings 5.Tunneling 6.Gradients utiliz. 7.Wagon EUREKA expansion

- 12) FY. 1984 SENATE Record Part 3. pp. 1643 to 1653 - Hearings March 24. 1983 -
- 11) " " HOUSE " " 7. " 874 to 884 - " " " " -

The required $. 25. Million of Appropriations to be utilized for 2. Initiatives of emergency Importance: 1) To build a Wagon Eureka, prototype. 2) To Shuttle a Solar Mirror in Earth's Synchronous Orbit, and experiment its efficiency on Photovoltaics.

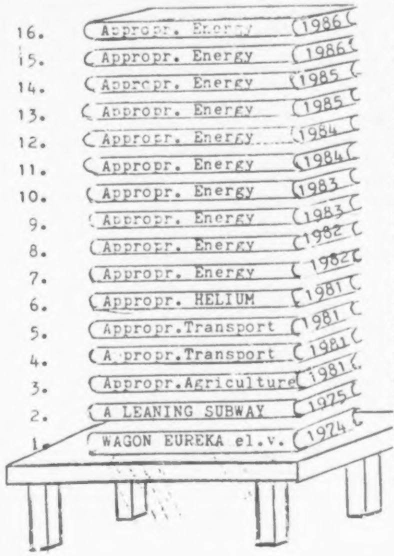
- 10) FY. 1983 SENATE Record Part 4. pp. 2711 to 2717 - Hearings April 24. 1982 -
- 9) " " HOUSE " " 8. " 2586 to 2593 - " " " " -

120 Solar Mirrors settled in Earth's Synchronous Orbit could provide the total Energy of every kind utilized in one year in The USA =about 8.76 Trillion KWH/year -

- 8) FY. 1982 SENATE Record Part 3. pp. 1932 to 1943 - Hearings March 24. 1981 -
- 7) " " HOUSE " " 10. " 2402 to 2411 - " " " " -

Planets VENUS and MARS conditioned in a lapse of 50. years, vs. 1000. yrs. by Others-

SENATE and HOUSE : TABLED STATEMENTS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8. Appropr. Energy 1982
7. Appropr. Energy 1982
6. Appropr. HELIUM 1981
5. Appropr.Transport 1981
4. Appropr.Transport 1981
3. Appropr.Agriculture 1981
2. A LEANING SUBWAY 1975
1. WAGON EUREKA el.v. 1974

6) FY. 1981 SENATE Rec. P.3 pp. 953-957 Hearings May 16. 1980 INTERIOR: HELIUM Standard replacing Gold Standard, next Century, as MONETARY Guaranty

FY. 1981 Transportation Appropriat. Hearings
5) SENATE Rec. P.2 pp. 144-150 April 17. 1980 -
4) HOUSE " " 7 " 615-619 " 16. " -

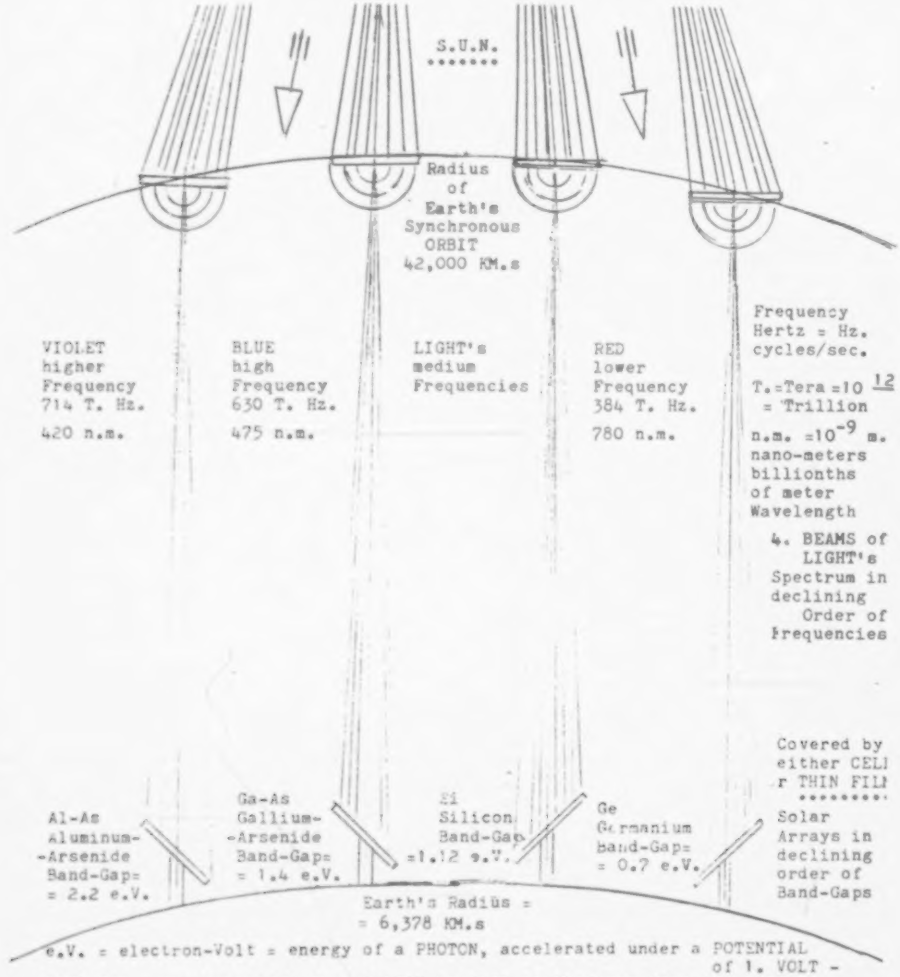
3) FY. 1981 SENATE Agriculture Appropr. Hearings Apr. 2. 1980 Rec. P.3 pp. 513-514-515 Useful Industrial Products by HARVESTED Plants -

2) SENATE Cttee. on Commerce, Science, & Transp. Oct. 7-10 Hrgs. on S.1632 & HR.8800 Electric Vehicle R.D.,& D. Act of 1975 - Record 94-96 pp. 161-164: My Project: LEANWAY=A Leaning Subway LEANWAY's MOTTO:"To build & to operate 2.Subways, like the DC.Area Metro-Rail, by the BUDGET needed for only one". "To move 5. alike Subways by the ENERGY required for only one"

1) HOUSE Science & Technology Cttee. June 3-6 1975 Hrgs on HR.5470 Electric Ve. Act of 1975 Rec. 27 pp. 728-740My INVENTION WAGON EUREKA assures 4/5 Savings of Energy in Transportation by its UNDERFRAME engaged in successive downgrades and upgrades providing FREE positive & negative ACCELERATIONS. Its BODY is kept at PERMANENT LEVELNESS, utilizing: GYROSCOPIC effect of FLYWHEELS; LASER Beam Gyroscope; Resistance of AIR at higher & highest SPEEDS, like aircraft.

NATIONAL ENERGY INDEPENDENCE PROJECT ***

BEAM-splitting FILTER/MIRROR Concentrators in Earth's Synchronous ORBIT Select part of the Solar spectrum, reject the remainder into Space, and FOCUS the selected Beam to a Field of Solar ARRAYS, with CELLS or THIN FILM of Appropriate BAND-GAP, at Earth's surface. The higher Frequency BEAM directed to the Field with higher BAND-GAP


S.U.N.
Radius
of
Earth's
Synchronous
ORBIT
42,000 KM.s
VIOLET
higher
Frequency
714 T. Hz.
420 n.m.
BLUE
high
Frequency
630 T. Hz.
475 n.m.
LIGHT's
medium
Frequencies
RED
lower
Frequency
384 T. Hz.
780 n.m.
Frequency
Hertz = Hz.
cycles/sec.
T.=Tera =10 12
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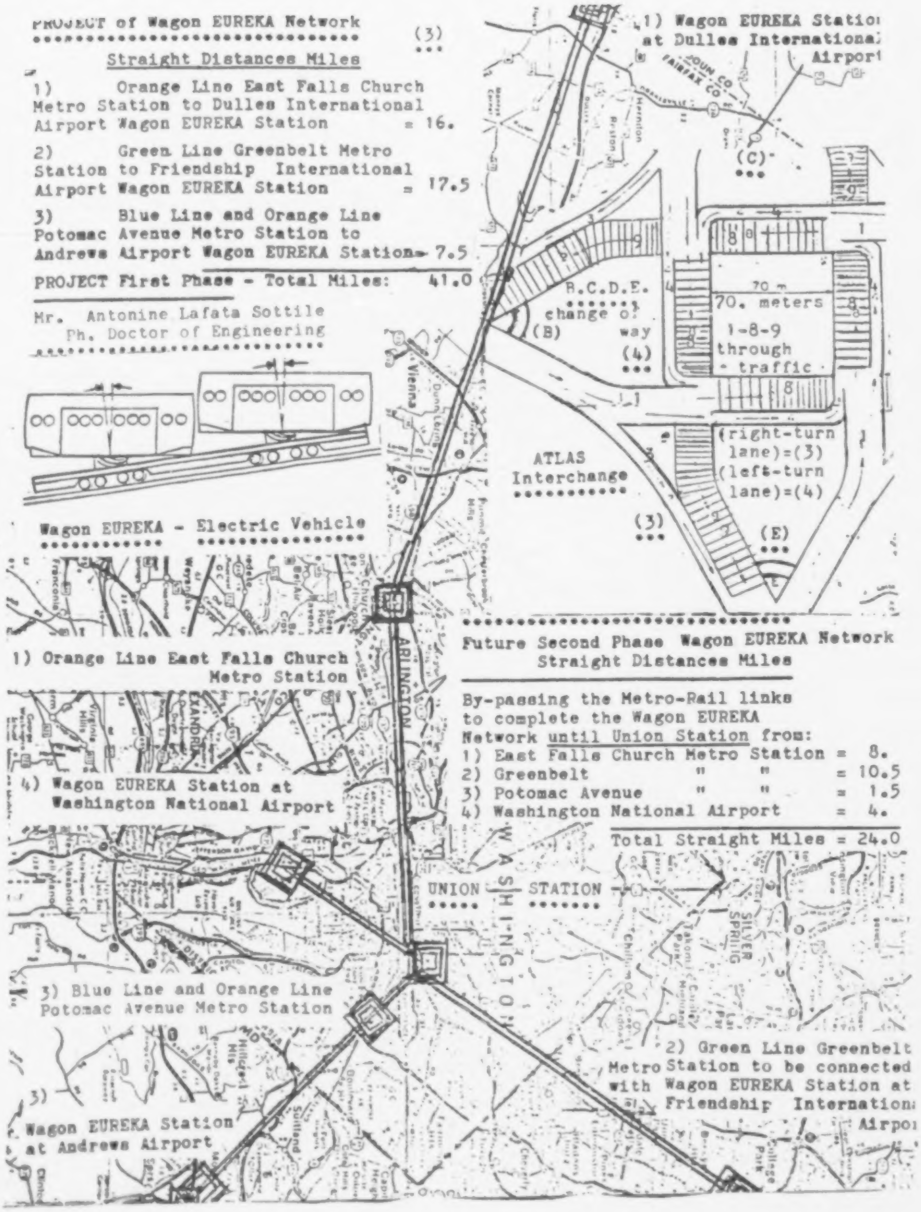
= 1.4 e.V.
Si
Silicon
Band-Gap
=1.12 e.V.
Ge
Germanium
Band-Gap=
= 0.7 e.V.
Earth's Radius =
= 6,378 KM.s

e.V. = electron-Volt = energy of a PHOTON, accelerated under a POTENTIAL of 1. VOLT -

BAND-GAP = energy needed by a PHOTON to FREE an Electron from its Atom, and Promote it into the Conduction Band -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1) Wagon EUREKA Statio
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Airpor
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change of
way
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70 m
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1-8-9
through
traffic
(right-turn
lane)=(3)
(left-turn
lane)=(4)
ATLAS
Interchange
(3)
(E)
Vienna
ARLINGTON
WASHINGTON
UNION STATION
SILVER SPRING
Wagon EUREKA - Electric Vehicle
1) Orange Line East Falls Church
Metro Station
4) Wagon EUREKA Station at
Washington National Airport
3) Blue Line and Orange Line
Potomac Avenue Metro Station
3)
Wagon EUREKA Station
at Andrews Airport
2) Green Line Greenbelt
Metro Station to be connected
with Wagon EUREKA Station at
Friendship Internation
Airpo

PROJECT of Wagon EUREKA Network

Straight Distances Miles

1) Orange Line East Falls Church Metro Station to Dulles International Airport Wagon EUREKA Station = 16.

2) Green Line Greenbelt Metro Station to Friendship International Airport Wagon EUREKA Station = 17.5

3) Blue Line and Orange Line Potomac Avenue Metro Station to Andrews Airport Wagon EUREKA Station = 7.5

PROJECT First Phase - Total Miles: 41.0

Mr. Antonine Lafata Sottile
Ph. Doctor of Engineering

Future Second Phase Wagon EUREKA Network
Straight Distances Miles

By-passing the Metro-Rail links to complete the Wagon EUREKA Network until Union Station from:

1) East Falls Church Metro Station = 8.
2) Greenbelt " " = 10.5
3) Potomac Avenue " " = 1.5
4) Washington National Airport = 4.

Total Straight Miles = 24.0

NATIONAL ENERGY INDEPENDENCE·PROJECT

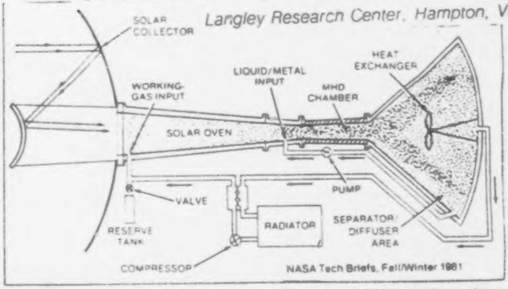
Solar-Driven Liquid-Metal MHD Generator

Langley Research Center, Hampton, Virginia

(4)
•••

A liquid-metal magnetohydrodynamic (MHD) power generator with a solar oven as its heat source has the potential to produce electric power in space and on Earth at high efficiency.

Modern generating plants incorporate irreversible thermodynamic losses due to their complex processes. Fuel is burned to create heat, the heat boils water to create steam, the steam drives a turbine, and the turbine powers a generator to produce the electricity. At each step, energy is lost, yielding an overall efficiency of about 35 percent. MHD generators, on the other hand, produce electricity directly from a moving substance such as a plasma or liquid metal, resulting in efficiencies as high as 50 to 60 percent. This high efficiency suggests that magnetohydrodynamics may be an excellent way to produce electric power from solar energy.

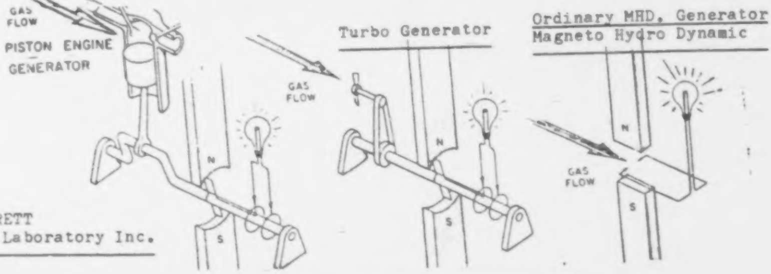


NASA Tech Briefs, Fall/Winter 1981

Solar MHD Generator focuses radiation from the Sun to heat a driving gas that pushes a liquid metal past a magnetic coil (not shown above). Power is extracted directly from the electric currents set up in the conducting liquid.

A SOLAR-DRIVEN LIQUID-METAL MHD. (Magneto Hydro Dynamic) GENERATOR beams SOLAR POWER into a SOLAR OWEN, through a transparent Window, kept cool and clean by Helium gas. In the OWEN the Solar Radiation HEATS the Working GAS, which is also compressed by the CONICAL shape of the Owen. As the LIQUID METAL is injected into the Owen, it too is HEATED, and it is MIXED with the DRIVING Gas. In the Mixing Area the Solar Energy is most concentrated, and the two-phase working FLUID is HOTTEST.
As the two-phase FLUID flows through the MHD. CHAMBER, ELECTRICITY is generated. Surrounded by a MAGNET and Power-conditioning unit (not shown in the figure), the Chamber (also called Channel), acts as Turbine and Power Generator.
Opposite ELECTRODES collect Positive and Negative IONS from the flowing GAS-LIQUID .
The GAS is separated from the Mixture in the SEPARATOR/DIFFUSER Area, and recuperated in the regenerative Heat EXCHANGER. The Gas is then returned to the Solar OWEN, by way of the Radiator and Compressor.
The Liquid Metal is pumped back into the Mixer.

Advantages of SOLAR-DRIVEN LIQUID-METAL MHD. GENERATOR over ordinary MHD. Generators
The Solar MHD. HEAT sources are in the range of 86 degrees centigrades through the FREE Solar Fuel
Ordinary MHD. Generators use as working Fluid an extremely HOT PLASMA, produced by burning Gas or Coal, with Air injected over 1370° C°. Plasma temperature over 2530°C°.
Seeded Potassium Carbonate K_2CO_3 increases Plasma's Conductivity. However the Plasma is 10,000 times less conductive than Liquid Metal, and ordinary MHD. Generator needs a much more powerful ELECTRO-MAGNET, than the Solar-Driven MHD. Generator.



Turbo Generator

Ordinary MHD. Generator
Magneto Hydro Dynamic

AVCO EVERETT
Reaserch Laboratory Inc.

An MHD Generator requires no steam boiler, turbine, or rotating Machinery.
In a conventional power plant, electricity is generated by rotating a solid copper conductor (Armature) through a magnetic field. An MHD. Generator uses a high temperature conducting gas (PLASMA) as its Armature. Efficiencies: 50%to 605

STATEMENT OF BBC BROWN BOVERI, INC.

Chairman Hatfield and distinguished Members of the Subcommittee, BBC Brown Boveri, Inc., headquartered in White Plains, New York, will document in the following testimony for the Subcommittee's hearing record, Brown Boveri's concerns over Section 506 of Public Law 99-141, Energy and Water Appropriations for Fiscal Year 1986, containing an increase in the "Buy American" differential from 6% to 25% for the procurement of extra high voltage (EHV) power equipment by the Power Marketing Administrations and the Tennessee Valley Authority.

If the 25% "Buy American" differential is applied indiscriminately for EHV power equipment toward all offshore suppliers, irrespective of the country of origin, it becomes a very unfair and counterproductive instrument with respect to those countries which have made great strides to comply with the principle of free and fair trade. Free and fair trade practices are a catalyst for technological advancements. It is through fair competition that the manufacturers in a free trade environment obtain both inspiration and motivation to develop advanced technologies. Since such developments are designed to offer more economical solutions, the ultimate beneficiaries will be the users.

The extra high voltage equipment industry includes a number of high technology components and systems that require heavy research and development with a long term commitment to remaining technologically competitive worldwide. It is our belief that the loss of market shares by some U.S. manufacturers in the extra high voltage industry has not so much to do with prices, but rather with technological insufficiency.

Not only does protectionism tend to inhibit technological innovation and advancement but it also has a pernicious effect upon consumers in the protected market. Representative Sam Gibbons, Chairman of the Subcommittee on Trade, Committee on Ways and Means, stated on September 18, 1985,

> "As you know, the effect of the prohibition would be to guarantee the one domestic producer of direct current EHV power equipment sole access to the federally-funded procurement market. Creating a legal monopoly for such equipment and denying access to foreign advanced technology is likely to result in higher electricity costs for industrial users and individual consumers."[1]

The Tennessee Valley Authority has said that,

> "Without competition from foreign suppliers, the costs to TVA of EHV equipment from these exclusive suppliers could be expected to rise sharply and the equipment delivery time to be longer."[2]

On the question of fairness, consider that Switzerland, a major producer of EHV power equipment, allows foreign and Swiss manufacturers of electrical machinery to compete equally for Swiss contracts. Bilateral exchange of electrical machinery and equipment between the U.S. and Switzerland is nearly in balance; meaning that on a per capita basis, Switzerland imports more electrical equipment from the U.S. than the U.S. imports from Switzerland.

The following are recent trade figures between the U.S. and Switzerland in millions of dollars:[3]

	1981	1982	1983	1984
U.S. Exports	3,022	2,707	2,960	2,563
U.S. Imports	2,448	2,340	2,494	3,199
U.S. Balance of Trade	547	367	466	-636*
U.S. Share of Market	7.4	7.2	8.4	6.0

*U.S. trade deficits in 1984 were due to the strong dollar.

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[1] Letter of September 18, 1985 from Representative Sam Gibbons to Senator Mark Hatfield.

[2] Letter from C.H. Dean, Jr., Chairman, Tennessee Valley Authority to Senator Mark Hatfield.

[3] Source: U.S. Department of Commerce, International Trade Office, Switzerland Desk.

During the General Agreement on Tariffs and Trade (GATT) Tokyo Round completed in 1979/1980, Switzerland sided with the U.S. and not the European Economic Community (EEC) and strongly supported the inclusion of the energy sector in GATT's procurement code. A new round of GATT trade negotiations, whose aim is to strengthen and expand the open multilateral trading system, is currently in the preparatory stage. Switzerland, like the U.S., supports the idea of including services, high technology products, and software in the procurement code.

BBC Brown Boveri, Inc., a subsidiary of Brown, Boveri & Company of Switzerland, began marketing its technologies in the U.S. as early as the 1920s, and in 1946 organized as a U.S. corporation. Today, Brown Boveri employs a work force of 2,300 at 66 locations in 25 states throughout the U.S. Furthermore, Brown, Boveri & Company, contributing to the balance of trade between the U.S. and Switzerland, purchased approximately $150 million of equipment, ranging from computers to capacitors, from a great number of U.S. companies in 1984.

For more than a half century, Brown Boveri has supplied the finest products and service to virtually every major U.S. industry. Brown Boveri technology is continually advanced through research and development programs into which it invests approximately 9% of total sales each year. In recent years, our marketing activity has been backed with a steadily expanding domestic presence so that an increasing amount of the equipment sold in the U.S. is designed, produced, tested and serviced here.

It should be noted that, Brown Boveri can demonstrate a U.S. content in excess of 50% in its production of high voltage circuit breakers of 115 KV and above, including extra high voltage breakers. In striking contrast, some better known U.S. manufacturers use large percentages of foreign-manufactured products in their EHV equipment. Because of this fact, two Japanese companies, Mitsubishi and Hitachi, will benefit from the "Buy American" provisions which were included in last year's appropriations bill. Japan's own markets for such equipment are basically closed to U.S. producers.

It is doubtful that anyone intended the U.S. should favor Japanese-made products over Swiss-made products as a result of the "Buy American" language in Section 506 of Public Law 99-141. It is certain, however, that such an effect was achieved and should be corrected.

We therefore respectfully request that this "Buy America" provision be repealed. At the very least, some provisions should be added in order to grant companies of free and fair trading nations the ability to market their products in the United States on a reciprocally fair and competitive basis.

STATEMENT OF REV. T. BYRON COLLINS, S.J., ASSISTANT TO THE PRESIDENT OF GEORGETOWN UNIVERSITY

Mr. Chairman and members of the Committee, I am Rev. T. Byron Collins, S.J., Assistant to the President of Georgetown University. I am accompanied by Mr. Dennis P. Shaff, Director of Contracts for Georgetown's Physical Plant. We thank you for the opportunity to testify before this Committee.

As I testified before this committee last April, Georgetown University has completed construction and has since October 1984 has put into operation the "Photovoltaic Higher Education National Exemplar Facility" (PHENEF) housed in the Intercultural Center on Georgetown's Campus. This $24 million project is a product of a joint venture between the United States Department of Energy, the United States Congress and Georgetown University to demonstrate the feasibility of photovoltaic power as a future alternative energy source for college and university campus buildings nationwide. The project was partially funded by a $10 million federal grant from the DOE and supplemented through Georgetown resources and special gift contributions.

As the attached report shows that so far the Georgetown project has been successful as it was envisioned and that through continuous engineering refinements and adjustments to the system, the production of the photovoltaic system has been constantly increasing.

On behalf of the University, I would like to express that Georgetown would welcome and appreciate any additional funds which may be available for this program, since there is substantial potential to conduct more extensive and productive research in the area of development and utilization of this photovoltaic technology.

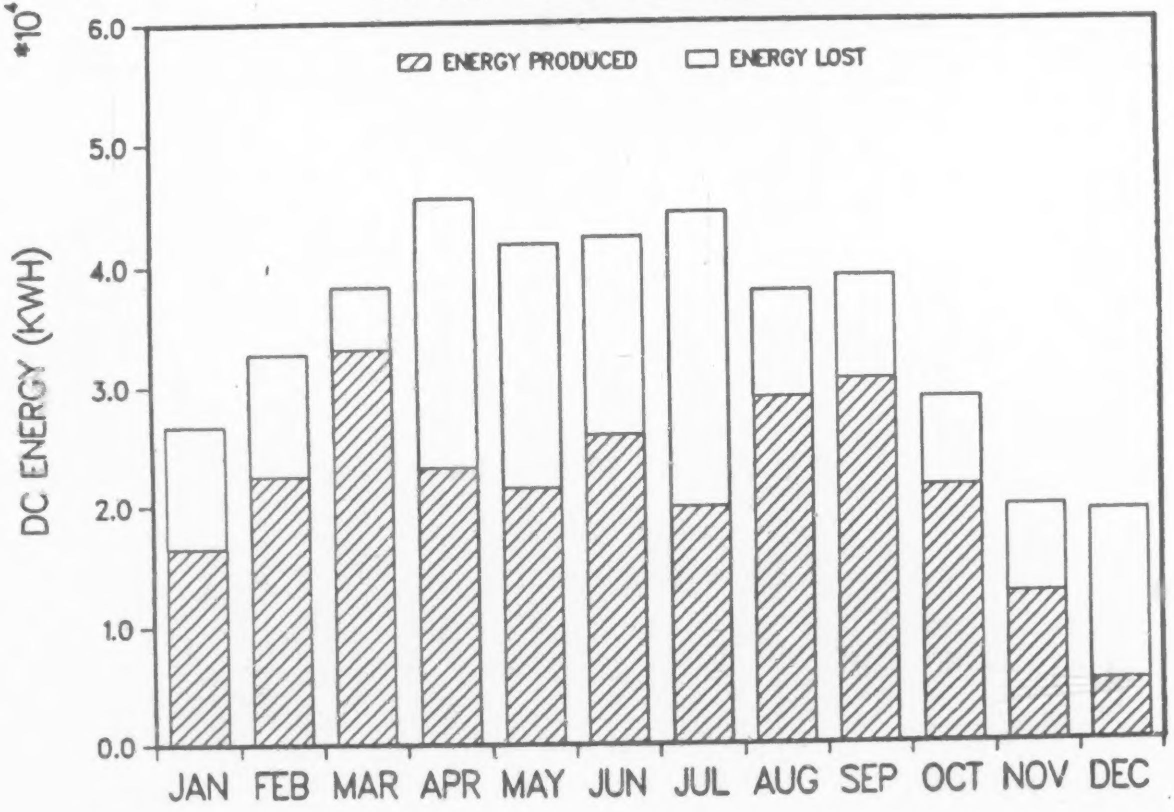
On behalf of our President, Rev. Timothy S. Healy, S.J., we thank you once again for this opportunity to testify.

SAVINGS FROM ICC PHOTOVOLTAIC ROOF

	PHOTOVOLTAIC OUTPUT (AC KWH)	peak rate ($ per KWH)	int. rate ($ per KWH)	off rate ($ per KWH)	weight 25/10/12	fca rate ($ per KWH)	dc gr adj (times tot.)	eff. rate (incl.disc.)	(1) ENERGY $ SAVINGS
JUL 84	22,973	0.06410	0.04747	0.03026	0.05192	0.0000383	1.021618	0.0504	1,159
AUG	22,973	0.06410	0.04747	0.03026	0.05192	0.0031340	1.019212	0.0533	1,225
SEPT	22,973	0.06410	0.04747	0.03026	0.05192	0.0048546	1.019212	0.0550	1,263
OCT	22,973	0.05449	0.04813	0.03070	0.04706	0.0043465	1.019212	0.0498	1,144
NOV	22,091	0.05449	0.04813	0.03070	0.04706	-0.0022102	1.017912	0.0434	958
DEC 84	18,262	0.05210	0.04601	0.02935	0.04500	-0.0040568	1.017912	0.0396	723
JAN 85	15,734	0.05210	0.04601	0.02935	0.04500	-0.0078516	1.017912	0.0359	565
FEB	21,599	0.05210	0.04601	0.02935	0.04500	-0.0035939	1.017912	0.0400	865
MAR	31,813	0.05210	0.04601	0.02935	0.04500	-0.0006193	1.017912	0.0429	1,365
APR	22,513	0.05226	0.04617	0.02947	0.04515	0.0001986	1.017912	0.0438	987
MAY	20,893	0.05226	0.04617	0.02947	0.04515	0.0039750	1.017912	0.0475	992
JUN 85	24,965	0.06235	0.04618	0.02947	0.05051	0.0052959	1.017912	0.0540	1,347
JUL	19,303	0.06235	0.04618	0.02947	0.05051	0.0077095	1.017912	0.0563	1,087
AUG	27,991	0.06235	0.04618	0.02947	0.05051	0.001933	1.017912	0.0507	1,420
SEPT	33,853	0.06235	0.04618	0.02947	0.05051	-0.0011515	1.017912	0.0477	1,616
OCT	22,383	0.05226	0.04617	0.02947	0.04515	-0.0047872	1.017912	0.0390	874
NOV	11,400	0.05226	0.04617	0.02947	0.04515	-0.0051867	1.017912	0.0386	441
DEC 85	4,750	0.05226	0.04617	0.02947	0.04515	-0.0042555	1.017912	0.0395	188
TOTAL	389,442 KWH								$18,217

03-Apr-86

	P & T Demand (KW)	P & T Avoided demand rate ($ per KW) (incl.disc.& dc gr adj.)	(2) P & T DEMAND $ SAVINGS	Distribution Demand (KW)	Distribution Avoided demand rate ($ per KW) (incl.disc.& dc gr adj.)	(3) DISTRIBUTION DEMAND $ SAVINGS	(1)+(2)+(3) TOTAL $ SAVINGS	
JUL84	280	$9.20	2,447	280	$5.65	1,503	5,109	JUL 84
AUG	280	$9.20	2,447	280	$5.65	1,503	5,175	AUG
SEPT	280	$9.20	2,447	280	$5.65	1,503	5,213	SEPT
OCT	N/A	N/A	0	280	$5.65	1,503	2,646	OCT
NOV	N/A	N/A	0	280	$5.65	1,503	2,461	NOV
DEC	N/A	N/A	0	280	$6.00	1,596	2,319	DEC 84
JAN85	N/A	N/A	0	280	$6.00	1,596	2,161	JAN 85
FEB	N/A	N/A	0	280	$6.00	1,596	2,461	FEB
MAR	N/A	N/A	0	280	$6.00	1,596	2,961	MAR
APR	N/A	N/A	0	280	$6.00	1,596	2,583	APR
MAY	N/A	N/A	0	280	$6.00	1,596	2,588	MAY
JUN	280	$9.80	2,607	280	$6.00	1,596	5,550	JUN 85
JUL	280	$9.80	2,807	280	$6.00	1,596	5,290	JUL
AUG	280	$9.80	2,607	280	$6.00	1,596	5,622	AUG
SEPT	280	$9.80	2,607	280	$6.00	1,596	5,819	SEPT
OCT	N/A	N/A	0	280	$6.00	1,596	2,470	OCT
NOV	N/A	N/A	0	280	$6.00	1,596	2,037	NOV
DEC85	N/A	N/A	0	280	$6.00	1,596	1,784	DEC
			$17,769			$28,263	$64,248	



GEORGETOWN UNIVERSITY, WASHINGTON, D.C.
MONTHLY ENERGY PRODUCTION
JANUARY 1985 TO DECEMBER 1985

STATEMENT OF NATIONAL RURAL ELECTRIC COOPERATIVE ASSOCIATION

Mr. Chairman, my name is Morgan Dubrow, Chief Engineer of the National Rural Electric Cooperative Association (NRECA). NRECA is the national association of over 1000 rural cooperatives which supply central station electricity to some 25 million people in the rural areas of 46 states.

We are strongly opposed to the President's budget proposal for F.Y. 1987 to dispose of the Federal Power Marketing Administrations (PMAs). The rural electric cooperatives are determined to defeat any attempt to sell the Government's electric power systems.

NRECA supports the F.Y. 1987 budget request for the Corps of Engineers, the Bureau of Reclamation, the Department of Energy's PMAs, and other DOE energy programs. Our support of the cost-sharing proposals set out in the Bureau's and Corps' programs is conditioned on criteria under which the Federal Government selects and operates the projects, protects preference, and provides for the sale of power by the PMAs at the lowest cost as presently required by law. We also support DOE's nuclear programs for safety, enrichment, breeder reactor systems, nuclear waste disposal, advanced converters, and high temperature gas reactors. NRECA emphasizes the need for:

- $27.0 million for continued funding of the F.Y. 1986 new construction starts for the Bureau of Reclamation, and $47.0 million for new construction starts by the Corps of Engineers.
- $30.0 million for the Central Valley Project, California.
- $25.0 million for the Richard B. Russell Dam, Georgia-South Carolina.
- $18.0 million for Garrison Irrigation Project, North Dakota, as presented in the President's budget; $30.0 million additional if the reformulation bill is enacted.
- $2.5 million for Harry S. Truman Dam, Missouri.
- $203.9 million for Central Arizona Project, Arizona.
- $83.8 million for the Bonneville Unit of the Central Utah Project, Utah.
- $44.5 million for Columbia Basin Project, and Chief Joseph and Bonneville power plants in the Pacific Northwest.
- $4.8 million for Atmospheric Water Resources Management.
- $24.7 million for Dallas Creek and Dolores projects.
- $150.0 million for the operation and maintenance budget of the Bureau of Reclamation.
- $623.5 million for the five Federal power marketing agencies.
- $603.5 million for nuclear programs.
- $28.0 million for modular high-temperature gas reactors.
- $20.0 million for electric energy systems research.
- $10 million for multimegawatt phosphoric acid fuel cell technology development.

At our 44th annual meeting in Las Vegas in March 1986, our members again unanimously passed resolutions supporting appropriations for a number of water resource and hydroelectric projects throughout the United States. NRECA encourages the Congress to fund plans and construction for comprehensive water resource projects including hydroelectric power development.

Opposition to Sale of Power Marketing Administrations

We strongly oppose the President's budget proposal to dispose of the Federal power marketing administrations. The nation's rural electric cooperatives (over 600 purchase Federal power) are determined to defeat any attempt to sell the Government's electric power systems.

Our Executive Vice President Bob Bergland has declared that "such a drastic change in national policy is not only economically ill-considered, but absurd. It would have a severe and, in some cases, ruinous impact on hundreds of rural electric cooperatives and bring further economic hardship to rural America. ..."

Our membership unanimously passed the attached resolution, "Opposition to Giveaway of Federal Power Marketing Administrations." This resolution sets out in detail the benefits our consumers and the nation receive from the PMAs, and our strong opposition to the "giveaway" of these public resources.

Income from power sales helps to reduce the Federal deficit over the long term. Also, what will happen to the recreation, flood control, fish and wildlife, and the numerous public purposes for which these projects were built?

New Construction Cost-Sharing for the Bureau of Reclamation

We are pleased that the Administration has increased funding for the Bureau of Reclamation construction program to $577 million which will permit the timely completion of water resource projects as presented in the President's F.Y. 1987 budget.

The Bureau of Reclamation has successfully negotiated an agreement on cost-sharing for Boulder Canyon in Nevada-Arizona, Buffalo Bill in Wyoming, and Head Gate Rock in Arizona. The three are hydroelectric improvements and the added power will be sold by Western Area Power Administration in accordance with the preference laws. In addition, we support the initiating of construction of the Animas-LaPlata Project in Colorado-New Mexico. We encourage the Federal Government to be reasonable in its negotiations to arrive at the contribution from the States of Colorado and New Mexico. Construction of this project also would resolve the issue over Indian water rights; unless this is resolved, the Federal Government will incur very substantial additional costs.

New Construction Starts for the Corps of Engineers

We support Federal funding for the 41 new construction starts funded by Congress in the 1985 Supplemental Appropriations Act, Public Law 99-88. We note that the Administration has increased the budget request for the Corps of Engineers' Civil Works Program by about $275 million which adds support for new water resource development. We are pleased that this includes $47 million to start the 19 new water projects.

We will continue to examine each of the Administration's proposals for new hydroelectric facilities as this Subcommittee and the Congress has done on a project-by-project basis. We will examine proposed projects to assure that: 1) preference is fully protected, 2) the Federal Government selects, develops and operates the projects, and 3) power produced is marketed through the power marketing administrations at the lowest possible cost.

Central Valley Project

We support the appropriation of $30 million in F.Y. 1987 for the Central Valley Project. The Auburn-Folsom South Unit has a potential of 300 MW of hydroelectric power with the possibility of an additional 400 MW for pumpback units. Auburn Dam funds are not in the budget, pending arrangements for financing with local interests; nonetheless, we request that additional funds be appropriated for the Bureau of Reclamation to begin construction of Auburn Dam.

Richard B. Russell Dam

Funds in the amount of $25 million should be appropriated in F.Y. 1987 for continued construction of the Richard B. Russell Dam Project on the Savannah River between Georgia and South Carolina. It will provide 600 MW of needed hydroelectric power, 300 MW base load and 300 MW of pumpback power.

Garrison Irrigation Project

We support all efforts to reach agreement on the reformulation of the Garrison Diversion Unit and that work on the project be resumed. The Bureau needs the $18 million recommended, pending resolution of the reformulation legislation. However, funding for the project should be increased by an additional $30 million to implement construction consistent with reformulation legislation now being considered by Congress.

Harry S. Truman Dam and Reservoir

We support the appropriation request for $2.5 million in F.Y. 1987 to continue construction at the Harry S. Truman Dam and Reservoir which will enable the use of the full hydroelectric potential at this valuable project.

Central Arizona Project

We urge the Subcommittee to appropriate $203.9 million required in F.Y. 1987 to continue the orderly construction of the Central Arizona Project which is vital to the water supply for the State of Arizona. This would provide for the delivery of water to Phoenix and Tucson.

Bonneville Unit, Central Utah Project

We request that the Subcommittee appropriate $83.8 million in F.Y. 1987 for construction of the Bonneville Unit of the Central Utah Project which has a potential of 176 MW of hydroelectric power.

Columbia Basin and Other Pacific Northwest Projects

We support F.Y. 1986 appropriations of $31 million for the Columbia Basin Project, including river basin stabilization below the Third Powerhouse at Grand Coulee, $6 million for Chief Joseph Power Plant additions, and $7.5 million for the Second Power Plant at Bonneville Dam.

Atmospheric Water Resources Management

We support the F.Y. 1987 $4.8 million request to continue the cloud seeding technology being developed by the Bureau of Reclamation to increase water supplies in the arid West.

Dallas Creek and Dolores Projects, Colorado

We support the appropriation requests for $4.3 million to produce 4.2 MW at Dallas Creek and $20.4 million to produce 13.7 MW at Dolores Project.

Bureau of Reclamation O&M Budget

We are pleased to note an increase to $150 million in the Bureau of Reclamation O&M budget. However, it does not adequately meet the funding needs for preventative maintenance for power and water contracted for by the water and power users. We encourage the Committee to request the Bureau to examine its needs for a continuing preventative maintenance program.

Federal Power Marketing Agencies

NRECA supports the $623.5 million for F.Y. 1987 appropriation request for Federal power marketing agencies. This would increase the budget request by $59.2 million to make up for anticipated carryovers which we understand are not available and should be restored. The F.Y. 1987 requests by agencies are: $283.8 million for the Western Area Power Administration, $21.7 million for the Southeastern Power Administration, $38.6 million for the Southwestern Power Administration, and restoration of the $3.3 million for the Alaska Power Administration. We also support the Bonneville Power Administration's $276.1 million budget funded through its self-financing revolving fund procedures. We suggest that similar revolving funds for the other power marketing agencies would be desirable and we support proper legislation to achieve this end.

The five power marketing agencies continue to carry out their programs efficiently and effectively. They continue to market power from Federal projects to encourage widespread use in accordance with preference laws. At the same time, power is sold at rates which recover all costs -- interest, amortization, operation and maintenance over the project repayment period as established by the Congress.

Nuclear Programs

Our association has resolutions supporting nuclear power and nuclear research programs. We request the Subcommittee to provide funds for the F.Y. 1987 budget request of $631.5 million for nuclear programs. We are concerned that funding for DOE's advanced nuclear reactor program has been reduced severalfold since 1983 and larger cuts have been proposed for F.Y. 1987. Furthermore, NRECA believes that the diversion of funding away from civilian reactor objectives toward strategic defense initiatives will be a further major detriment. While our association does not object to the use of appropriate reactor technology to fulfill SDI objectives, in our judgment such support should not be a substitute for maintaining progress in civilian programs.

Funds are vitally needed to continue development of nuclear technology for improved safety, waste management, enrichment, reactor standardization and other improvements. This advanced technology is essential for continued development and maintenance of a viable nuclear industry and to support the ongoing nuclear power program which provides over 15 percent of our nation's electrical needs. We urge the Subcommittee to provide all the funds requested for the following programs:

- $302.9 million for nuclear energy research and development
- $294.1 million for nuclear waste technology
- $6.5 million for civilian waste research and development
- $28.0 million for the modular high-temperature gas reactor

Modular High-Temperature Gas Reactors

NRECA has for many years supported the development of the modular high-temperature gas reactor (HTGR). We urge your Committee to support the House Science and Technology Committee's recommendation to provide the Department of Energy $28 million in F.Y. 1987 to meet the nuclear challenge of the future by developing this small passively safe nuclear system. A recent survey of the U.S. domestic utilities indicates that small modular nuclear systems will dominate the future U.S. nuclear market because they will more closely match the users' needs. We believe the HTGR will fill this need because of its passive safety, design and operational simplicity and potential to achieve power costs which will offer economic advantages over alternative generating systems. Many rural electric cooperatives will be adding small increments of capacity over the next several decades and a small modular HTGR will be an attractive candidate for this new capacity.

Electric Energy Systems Research

We support a long-range Federal commitment for DOE Electric Energy Systems (EES) research at a minimum level of $20 million, along with adequate staffing for F.Y. 1987. This effort is essential because of its national security importance and impact on electric power production and delivery. The kind of projects, which the utility industry itself cannot carry out, includes studies on the effects of electromagnetic pulse and electromagnetic fields, and technology for improving efficiencies and reliability of power generation, transmission and energy storage.

Fuel Cell Technology Development

We support a minimum of $10 million for multimegawatt phosphoric acid fuel cell technology development. Rural electric cooperatives foresee that fuel cell power plants will result in economic benefits, improved service availability, conservation of fuel resources, and a cleaner environment. We urge the Committee to support this important research which ultimately will provide commercial fuel cell power plants for the utility industry.

I thank the Committee for the opportunity to present this testimony.

Attachment

RESOLUTION

Opposition to Giveaway of Federal Power Marketing Administrations

The Administration is proposing the "giveaway" of the five federal power marketing administrations.

Energy generated at federal hydroelectric facilities is purchased by more than 1,000 consumer-owned utility systems that serve homes, farms, business and industry in 34 states.

The federal investment in hydropower is being systematically repaid to the U.S. Treasury, with interest, by federal power customers and power revenues also contribute a significant amount of revenue to assist the repayment of irrigation costs, salinity control and fish and wildlife mitigation programs.

Some 275,000 manufacturing, wholesale, retail and service companies nationwide, which employ more than 3,000,000 people and contribute nearly $240 billion to the national economy, are served by consumer-owned utilities that rely on federal power purchases for all or part of their bulk power supply.

Rates for sale of power from federal hydroelectric developments are cost-based and provide a yardstick by which the reasonableness of rates charged by investor-owned utilities can be measured.

The Administration proposal to the giveaway of the PMAs is aimed squarely at eliminating the principle of yardstick competition, shifting all utility rates from cost-based rates to so-called market rates and transferring public resources to private ownership and control.

With this nation suffering from record trade deficits and from an agricultural depression unparalleled since the "dust bowl days" of the 1930s, this is no time to add to the competitive disadvantages that American industry and agriculture are already experiencing in world markets by unnecessarily driving up energy costs solely for the purpose of benefiting the shareholders of private utilities.

The federal power projects now coveted by the investor-owned utility industry were funded and supported by non-profit rural electric systems since their inception and during the difficult early years when investor-owned utilities generally shunned and/or opposed the projects and refused to provide power to rural America.

Public ownership and control of natural resources have provided incalculable benefits to the nation's citizens and made possible the widest possible distribution of these benefits to the people rather than to a few special private interests.

The sale, transfer or other disposal of the federal power marketing administrations or the federal power plants and related facilities would:

Threaten consumer-owned utilities and their customers with uncertainty of supply and significantly higher power rates,

Undermine the ability of consumer-owned utilities to provide reliable electric service at competitive rates and thereby increase monopoly in the electric utility industry,

Abandon existing repayment agreements between the United States and federal power users, and

Eliminate a reliable, long-term source of revenues for the U.S. Treasury.

Only Congress can authorize the transfer of the PMAs out of federal ownership, management and control. Congress has not done so, nor has Congress made any federal funds available for this purpose. Therefore, its implementation by any federal agency would constitute an unauthorized, and therefore an unlawful, expenditure of federal funds.

We vigorously oppose the sale, transfer, exchange, lease or other disposition of the federal power marketing administrations and power plants and related facilities for the production and transmission of electricity.

We call on Congress to make its opposition to the Administration's "giveaway" proposal unmistakably clear by expressly prohibiting the expenditure of federal funds to study, develop, or entertain any proposals for the transfer out of federal ownership, management, control, or operation of the federal power marketing administrations, or their functions, in whole or in part.

Instead of destroying the federal power marketing administrations as the Reagan Administration proposes, we believe that the benefits of low cost federal power should be expanded by development of additional projects to all areas of the country. Public development, ownership and control of hydro power is the wisest and best use of this natural resource.

STATEMENT OF EDISON ELECTRIC INSTITUTE

The Edison Electric Institute (EEI) is the national association of investor-owned electric companies. Its members serve approximately 73 percent of all ultimate electricity customers in the nation. They operate 82 nuclear plants and currently have 20 additional units under construction. These nuclear utilities hold the majority of the domestic uranium enrichment contracts with the Department of Energy (DOE) and they have nuclear waste disposal contracts with the Department. Utility payments to DOE during FY 1986 will be approximately $1.4 billion. The full costs of both programs are covered by utility payments.

Three areas of the Fiscal 1987 civilian nuclear program budget are of special concern to electric utilities operating nuclear power plants: the uranium enrichment activity, the nuclear waste program, and the funding for research in conjunction with the TMI-2 cleanup.

URANIUM ENRICHMENT ACTIVITY

We agree with the proposed expenditures of the DOE in the FY 1987 budget request for the uranium enrichment activity with the exception of the payment to the U.S. Treasury of $235 million. We strongly oppose the implied concept that the Uranium Enrichment Enterprise owes a large amount of money to the Treasury for prior unrecovered costs.

Our position with regard to the recently proposed Uranium Enrichment Services Criteria published by DOE on January 29, 1986, that includes a section on "Recovery of Prior Unrecouped Government Costs", is provided in detail as our official comments to the DOE on February 28, 1986. A copy of these comments is provided as Attachment A to this testimony.

Congressional Direction

The initial Congressional intent for uranium enrichment is clearly expressed in the record of the Joint Committee on Atomic

Energy. Significant guidance was provided in a letter of October 18, 1966 from Chet Holifield, Chairman of the Joint Committee, to Dr. Glenn T. Seaborg, Chairman of the Atomic Energy Commission. The following quote is from that letter.

> "We recognize that accounting procedures applying to facilities which were constructed for and devoted to military production and now used for civilian nuclear fuel production, necessarily cannot follow standard industrial or Government procedures in all respects."

In a letter of August 10, 1984, from the General Accounting Office to Congressmen Dingell and Ottinger it is stated:

> "DOE is not required to have a formal plan for repaying the Treasury for the government's cost of providing uranium enrichment services, nor does the legislative history indicate that the Congress intended the programs to make specific repayments to the Treasury as is the case for some other programs."

Each and every year since 1969, Congress has reviewed and approved the uranium enrichment services budget, and at no time did Congress indicate that prior costs were being accumulated to be recovered at some later date. Congress did not permit or require the uranium enrichment activity to establish a debt account that would suggest such an obligation. Each year, Congress directed DOE to use the enrichment revenues to pay for operating costs, research and the expansion of production capacity.

In other instances where the Government provides services, Congress specifically permitted the establishment of debt. This was permitted for the Tennessee Valley Authority, for Power Marketing Agencies, and was even permitted for the Nuclear Waste Program. This clear distinction of not permitting the enrichment activities to establish a debt account appears to have defined the intent of Congress. Congress did not believe a debt was being accumulated by the enrichment activities. They did believe appropriate costs for enrichment services were recovered in the prices charged by the Government.

Major New Basic Policy

The Administration is requesting a major change in the basic policy. This new approach does not reflect the understanding of the domestic commercial customers who have taken delivery of enrichment services over the past sixteen years. Prices were set each year on the basis of recovery of Government costs and the customers paid for the services on that basis. There was no indication that some amount of additional Government costs was to be carried forward and recovered at a future date.

As a program accounting decision, the DOE has proposed the reduction of $4 billion from the Government investment account, as a write-off of plant capacity that will not be used in current or future enrichment operations. This accounting step appears to be appropriate. After the write-off, the remaining value of about $3.5 billion may be an appropriate value of the net assets, which includes very large inventory values. However, this should not be viewed as "prior unrecovered Government costs" that are to be paid to the U.S. Treasury. If a payment to the Treasury is to be established, it would be more appropriate to base the payment on a percentage of future net income, similar to conventional business practice.

Basis for the Presumed Prior Unrecovered Government Costs

The U.S. General Accounting Office (GAO) has evaluated the uranium enrichment program in detail and provided its views on what it considers to be the "government's unrecovered enrichment costs". It has suggested a methodology that does not recognize an appropriate allocation of the costs for purposes other than to serve commercial customers, and does not recognize the actions of Congress in its annual budget reviews. Specifically, GAO defines the total government cost as the sum of; (1) the government's initial investment in the program, (2) all appropriations, and (3) imputed interest. This simplistic methodolgoy appears to ignore or inappropriately dispense with the following:

- Direction provided by the Joint Committee on Atomic Energy to the Atomic Energy Commission when the initial criteria were established and subsequently modified,
- Annual Congressional direction provided during the budget reviews each year in which Congress directed the Administration to use program revenues to offset operating expenses, perform research and to expand the production capacity,
- The lack of Congressional authority to establish a debt account for the enrichment activity that would recognize any unrecovered government costs,
- The initial government investment set up on the books in 1970 was paid for in prior years by the Nation's taxpayers for military reasons,
- Appropriate allocation of costs that were incurred for military purposes,
- Appropriate allocation of costs that were incurred for non-proliferation/National Security reasons, and
- Program Appropriation values that were not actually spent by the Administration in the enrichment program.

The DOE and the Office of Management and Budget (OMB) appear to have taken a distinctly different approach to the newly defined "prior unrecovered Government costs". They apparently started with the line item in the Uranium Enrichment Activity Annual Report called "Government Investment" and redefined this line item as "prior unrecovered Government costs". In prior years, the Government Investment was shown as the value of the total assets minus total liabilities. This value should not be equated to "prior unrecovered Government costs." The approach by DOE and OMB does appear to properly address the need to write-off the value of the plant that will not be used in current or future enrichment operations. However, like the GAO approach, it appears to improperly dispense with the first six items listed above under the GAO approach.

If Congress believes that some amount of prior unrecovered Government costs does exist, and payments are to be made to the U.S. Treasury, it should review the GAO and DOE/OMB methodologies carefully in light of the above concerns. A sound approach that recognizes the intent of prior Congresses may be to create each year a Statement of Operations on the basis of Generally Acceptable Accounting Principles, showing the military, national security, commercial customer, and any other critical elements in separate columns. Such a statement would provide valuable guidance essential to an equitable cost allocation. The date on the Statement of Operations would provide key facts required for calculation of a current value on an earnings basis, and the deficits, surpluses etc., which might be relevant at any time.

An alternate approach to arrive at some value for prior unrecovered costs applicable to civilian customers, that appears to be more reasonable and supportive, is to subtract the civilian revenues received each year over the period of 1969 through 1984 from the enrichment program outlays during each year. Also, an appropriate full cost of production for the defense products should be assigned for each year. This approach defines the total outlays over the period from 1969 through 1984 as $14,880 million and the total civilian revenues as $13,320 million, leaving a net difference of $1,560 million over the sixteen year period. When appropriate production costs are assigned for defense materials, they have a value of about $1,430 million over the period. Without providing any other allocation of costs, such as facility expenditures required for safeguarding the military's high enriched uranium or the carrying cost of inventory provided for international non-proliferation/national policy reasons, the difference between $1,560 million and $1,430 illion, is $130 million that may be assigned as net outlays for civilian service activity. Since these outlays occurred in different years over the sixteen year period, it is appropriate to calculate an imputed interest value on the yearly outlays. This results in an imputed interest value of $220 million. The sum of the $130 million civilian outlays and the imputed interest thereon of $220 million provides a total of $350 million for civilian outlays plus interest.

As previously noted, the above analysis does not recognize the fact that specific facility expenditures were required for safeguarding high enriched uranium produced for military purposes. Additionally, no recognition was given for the costs associated with the Government's non-proliferation/national security policies. In fact, if these costs were properly recognized, it could be concluded that the revenues from civilian customers for enrichment services exceeded the costs of providing the service and were used to subsidize the defense and non-proliferation policies of the Federal Government.

If Congress decides that the Enrichment Activity should make future payments to the Treasury, it must also recognize that the U.S. enrichment program is now serving an internationally competitive market and the dynamics and the economics of that market will dictate the prices that can be charged for enrichment services. Any program for paying money to the Treasury must be part of a broader plan to allow DOE to price their services competitively.

Advanced Technology Research

We support DOE efforts to develop advanced technologies for enrichment, as long as developments are based on realistic prospects for ultimately lowering the cost of enrichment services. It is important that DOE carefully and consistently monitor its research and development projects specifically to assure that the goal of lowering costs will be met, and require prompt program adjustments if a research project cannot be expected to meet that goal. The research work now being performed on the Advanced Vapor Laser Isotope Separation (AVLIS) process appears to offer reasonable expectations for lower costs, and we support that effort on a modest basis with appropriate scale up steps so long as it continues to offer such expectations. This technology will require a substantial amount of time and funding to demonstrate an economically satisfactory concept. Thus, it is highly unlikely that non-government funding will be forthcoming to support such a demonstration.

NUCLEAR WASTE

The success of DOE's implementation of the Nuclear Waste Policy Act of 1982 (NWPA) is vital to the nation's nuclear power utilities. It is the nuclear power utilities and their electricity customers that presently fund the nuclear waste program at an annual rate of approximately $390 million by way of the one mill per kilowatt-hour fee imposed on the utilities. Thus, the nuclear utilities are concerned about the cost of the program to their customers and have a vital interest in its successful, timely, and cost effective implementation.

DOE is moving forward on its implementation of the NWPA. Our comments today are not so much a criticism of DOE's efforts -- much of what has been accomplished thus far is commendable -- as a discussion of several issues that must be addressed to meet the intent of Congress when it enacted the NWPA.

In this section of our testimony, we focus on only four of the issues that we believe are important to the overall success of the nuclear waste program:

- Schedule delays
- DOE fiscal management and cost control
- Cost allocation for defense wastes
- Integral Monitored Retrievable Storage

Schedule Delays

The NWPA includes detailed schedules for federal actions needed to meet the Act's objectives. These schedules were not peripheral to the Act but were the central method chosen by Congress to achieve the availability by 1998 of the first geologic repository. One of the Act's purposes is "to establish a schedule for siting, construction, and operation of repositories that will provide a reasonable assurance that the public and the environment will be adequately protected from the hazards posed by high-level radioactive waste and such spent fuel as may be disposed of in a repository...." (42 U.S.C. §10131) Congress in 1982 believed the schedules established were "realistic and workable" and fully expected "the involved agencies to do everything possible to assure that [the] schedule is met." (S. Rep. No. 282, 97th Cong. 1st Session) Unfortunately, missed deadlines and schedule slippages have become the rule for the nuclear waste program.

Section 114(e) of the Act requires DOE to prepare a Project Decision Schedule setting forth "the optimum way to attain the operation of the repository involved, within the time periods specified" and to report to Congress any failure of a federal agency to comply with a deadline. DOE has not complied with Section 114(e) of the Act. The July 1985 draft Project Decision Schedule neither reflects the statutorily-mandated schedules nor DOE's schedule problems. Rather, the draft Project Decision Schedule establishes the "reference schedule" for repository site recommendation at March 1991 -- four years later than the deadline established by Congress in the Act. Furthermore, we note that in the recently issued OCRWM Annual Report to Congress (DOE/RW-0004/2, March 1986) DOE indicates additional milestone slippages.

We urge this Subcommittee to encourage DOE to comply as closely as possible with the schedules established by Congress and to set forth the optimum means for compliance with the deadlines established in the Project Decision Schedule. DOE should fully comply with Section 114(e) and report to Congress all schedule problems, including those of its own making. DOE should report both actual and potential schedule problems and to submit for congressional information the means proposed to correct or compensate for factors inevitably leading to schedule slippage.

The consequences of schedule delays are significant. Program cost will increase and public confidence in the federal government's ability to manage nuclear waste disposal will erode. To avoid these impacts, we are encouraged to see that DOE has made some progress in developing and exercising greater centralized project management over the entire nuclear waste program and by placing greater emphasis on program controls to ensure that current schedules are maintained.

DOE Fiscal Management and Cost Control

The most recent estimates of the cost of the nuclear waste program are between $24-$34 billion. The NWPA directed that these costs be paid by those who benefit from the use of nuclear energy -- the owners and operators of civilian nuclear power reactors on the one hand and the United States atomic energy defense programs on the other. The fee for commercial power reactors is one mill per kilowatt-hour on all electricity generated and sold from commercial nuclear power plants. In addition, DOE has received a major portion of the $2.3 billion for the one-time fee payments for spent fuel generated prior to April 7, 1983.

Thus, electricity consumers are now paying for services that the federal government has promised to provide at some future time. We are concerned that DOE has yet to establish a systematic approach for controlling the costs of these services. For example, eighty-five percent of the cost of the nuclear waste program is spent on contractors and subcontractors, yet DOE has not established effective centralized management control over program contracts. Our concerns are shared by the National Association of Regulatory Utility Commissioners.

While DOE has made some progress in this area, we would recommend that DOE continue taking steps to establish increased management control and fiscal accountability for the waste management program in the following areas:

- Establish centralized DOE management for strategic planning, policy guidance, fiscal and schedule control, and coordinating all involved federal agencies.
- Perform systematic and continuing audits of contractors and subcontractors, as suggested by GAO.
- Establish, by rulemaking, clear and specific DOE guidelines for grant applications by States and Indian Tribes for both the first and second repository in accordance with the December 2, 1985 court decision in Nevada v. Herrington.

Cost Allocation for Defense Wastes

A Presidential decision on April 30, 1985 defined that high-level radioactive waste resulting from atomic energy defense activities and civilian spent fuel and waste should be disposed of in the same geologic repositories. However, DOE has not, despite our requests, involved the affected utilities in its consideration of cost allocation or acceptance schedule impacts that this decision creates. The proper allocation of costs between civilian and defense wastes is a multi-billion dollar issue. The acceptance schedules for defense wastes may well have a significant impact on the civilian spent fuel backlog. DOE treats this important issue with a non-committal statement in Mission Plan:

> "Negotiations are underway with other DOE offices to both establish an equitable cost-sharing method and to develop a waste acceptance schedule that integrates the two major waste streams.

Similarly non-committal statements are made in the recent Annual Report.

The utilities share the concerns expressed by the National Association of Regulatory Utility Commissioners that these internal negotiations between the DOE Division of Defense Programs and DOE Office of Civilian Radioactive Waste Management may be no more than an exercise in creative accounting to justify that the lowest possible cost is allocated to defense wastes. We are concerned that an equitable and realistic basis for cost sharing will not evolve, especially since DOE's overriding interest may be to minimize the direct impact on its appropriated budget for defense activities.

We ask this Subcommittee to urge DOE to pursue an open process that would involve the utilities directly in the consideration of an equitable cost-sharing approach. The utilities and their customers are the real parties of interest. We have offered to work with DOE to develop a reasonable cost allocation formula. The results of this process should be subject to public comment and Congressional scrutiny -- especially since Congress will have to authorize the Waste Fund payments for defense waste disposal. We understand that DOE is planning to issue a proposed rule for public comment as one step in determining the defense waste cost allocation. This will be a step in the right direction.

The defense waste cost allocation issue has two aspects: the allocation formula and the timing of payments to the Waste Fund. One suggestion being considered by DOE would base the defense waste share on the percent of the total curie content of waste at the time of disposal. The one mill per kilowatt-hour fee for civilian spent fuel, however, is essentially a fee on the total curie content at the time of discharge from the reactor core. Thus, an allocation based on the total curie content at disposal would credit defense waste with radioactive decay without allowing any such credit to civilian spent fuel. This would give DOE's defense programs a substantial "free ride" at the expense of electric utilities and their customers.

The utilities submit that an appropriate cost allocation approach should be based on the primary characteristic DOE utilized to justify commingling defense and civilian waste -- cost savings. Cost savings resulting from the combined operations -- compared to the overall cost of separate disposal systems -- should be shared in proportion to the cost estimate for the separate facilities. We describe this approach in more detail in Attachment B of this testimony.

Our preliminary analysis concludes that defense waste should bear about one-third of the cost of the geologic repository program. The nuclear industry is not looking for a subsidy from the defense side, nor do we desire to subsidize them. We look forward to working with DOE in developing a reasonable and equitable arrangement, which under any outcome must be subjected to broad public and Congressional scrutiny.

The timing of payments into the Waste Fund for defense wastes should be comparable to commercial payments. A one-time fee, similar to that required by the utility contracts, should be paid into the Waste Fund for all defense waste generated prior to April 7, 1983 in a manner similar to the civilian payments and should appropriately include interest, again similar to the interest requirements imposed on utilities. As mentioned earlier, the utilities commitment for pre-April 7, 1983 spent fuel is about $2.3 billion and a majority of this was paid in 1985. The defense side must make a proportionate payment to ensure equitable treatment. Fees for current defense wastes should be paid quarterly similar to electric utilities -- according to an equitable billing formula.

It is ironic that it took DOE only 6 months to promulgate and implement the complicated contractual arrangements -- including the fee structures -- for commercially generated spent fuel and high level waste. Yet, more that three years have elapsed since the Act was passed and DOE Defense Programs has not made a single payment for the expenses of the DOE Office of Civilian Radioactive Waste Management. We urge Congress to insist that DOE take prompt action to correct this inequity with payments starting in FY 1986, or at the very least, in FY 1987.

Integral Monitored Retrievable Storage (I-MRS)

The NWPA directs DOE to develop and present to Congress a proposal for a Monitored Retrievable Storage (MRS) facility, but

Congress reserved for itself the final decision on whether the nuclear waste program should include the MRS. DOE's Improved Performance Plan as proposed in its June 1985 Mission Plan, includes an Integral MRS (I-MRS). We strongly support the I-MRS and are pleased to note that on March 13, 1986 the EEI Board of Directors unanimously approved a resolution supporting the I-MRS. A copy of the resolution is Attachment C to this testimony. It urges Congress to direct DOE to proceed with the I-MRS and to implement the Improved-Performance Plan described in the June 1985 Mission Plan.

The I-MRS concept envisions a facility that would perform essential nuclear waste disposal functions. These include spent fuel acceptance, rod consolidation and spent fuel packaging. The I-MRS would also provide a limited amount of spent fuel storage. These front-end functions must be performed whether or not there is an I-MRS. However, locating these functions at the I-MRS, would provide significant benefits to the overall nuclear waste program. Front-end repository function designs, licensing and construction would be removed from the critical path for the first repository. This would allow DOE (and NRC) to concentrate the repository program on critical repository issues, such as emplacement, licensing and post-closure concerns. The I-MRS would make the nuclear waste disposal program less sensitive to delays in the schedule for the initial repository, because it would provide a limited amount of storage for spent fuel, away from the repository, that is ready for disposal.

Other significant benefits from the I-MRS include improvements in the waste transportation system. The I-MRS would result in a reduction in the number of nuclear waste shipments to the repository. It would also allow DOE to address transportation-related issues at an earlier stage than the siting of the initial repository.

Perhaps the greatest advantage to the nuclear waste program for including an I-MRS would be the requirement to mobilize DOE's design, licensing and construction forces several years before they would be required for a repository-only program. This would serve to focus DOE's implementation of a significant part of the NWPA at the earliest possible time. Such early focus for at least a portion of the program is essential given the extended duration of the overall program and the enormous costs involved.

DOE has indicated the net incremental cost of implementing the I-MRS could be as high as $2 billion. We believe that when DOE fully incorporates the I-MRS in its optimum system arrangement, I-MRS implementation will result in a decrease in the net cost of the overall program. Even if overall costs are not quantifiably reduced, the I-MRS cost estimate is, at most, about 6-8 percent of the total waste program cost and well within the estimated margin of error of the current overall program estimate.

We strongly urge Congress to approve the I-MRS to maximize benefits for the utilities and the overall implementation of the nuclear waste program. In order to maximize benefits for utility storage planning we also request Congress to permit I-MRS acceptance of a significant quantity of spent fuel, prior to construction authorization of the first repository.

THREE MILE ISLAND RESEARCH FUNDS

The clean-up of TMI-2 is progressing and the damaged fuel material is expected to be removed from the reactor by the middle of 1987. The investor-owned electric utility industry is providing $150 million toward the cleanup over a period of 6 years. Continuation of Federal R&D support funding, in addition to the industry funding, is vitally important to the cleanup program and to assure that the maximum of R&D information is obtained. We urge that Federal funding be continued to provide important

Thank you for the opportunity to present views of the electric utility industry on these civilian nuclear elements of the 1987 Budget Request of DOE.

ATTACHMENT A

LETTER FROM JOHN J. KEARNEY, SENIOR VICE PRESIDENT, EDISON ELECTRIC INSTITUTE

February 28, 1986

U.S. Department of Energy
NE-34, Room A-172, GTN
Germantown, Maryland 20545

Comments on Proposed Uranium Enrichment
Services Criteria (51FR3624)

Dear Sirs:

The Edison Electric Institute (EEI) offers for your consideration the enclosed comments on the proposed Uranium Enrichment Services Criteria, and requests an opportunity to speak at the public hearing on the proposed criteria on March 18-19, 1986.

EEI is the national association of investor-owned electric companies. Its members serve approximately 73 percent of all ultimate electricity customers in the nation. They operate 82 nuclear plants and currently have 20 additional units under construction. These nuclear utilities hold the majority of the domestic uranium enrichment contracts with the Department of Energy (DOE).

The U.S. enrichment services activity must be run on an efficient basis that recognizes the realities and the economics of a very competitive international market. It is appropriate to adjust the activity, by such steps as revising the criteria, to accommodate this market. Some sections of the proposed criteria provide flexibility needed in the program, and we support such modifications. However, some of the changes clearly are unacceptable and we urge DOE to review carefully our comments in this regard.

The proposed criteria represent significant and substantial changes over the existing criteria. Our specific comments are contained in Enclosures 1 and 2 to this letter. Enclosure 1 deals in detail with the issue of the recovery of alleged prior unrecovered Government costs. That aspect of the proposed criteria represents a major, fundamental change to the policy under which the enrichment activity operates. If adopted, it would raise serious questions concerning the validity of all existing and prior DOE contracts. Enclosure 2 provides section-by-section comments on the remainder of the issues covered by the proposed criteria.

Providing future payments to the U.S. Treasury, using sound and supportable accounting principles that are applied on a prospective basis, may be appropriate. Under any such approach, the cost of the program should be properly allocated among the entities and functions served: civilian, military, nonproliferation/national security, and any others. This would constitute a new policy and should be reviewed in detail by the Congress and the public before being adopted.

We appreciate this opportunity to submit our views on the proposed uranium enrichment services criteria. We would be glad to discuss them in greater detail at the public hearing.

Sincerely,

John J. Kearney

John J. Kearney

Enclosure 1

EDISON ELECTRIC INSTITUTE
COMMENTS ON 10CFR PART 762
DISCUSSION OF THE PROPOSED
RECOVERY OF PRIOR UNRECOUPED GOVERNMENT COSTS

The new policy proposed in 10CFR Part 762, section 762.6, Recovery of prior unrecouped Government costs, is inappropriate and unacceptable. Including such a section in the new criteria would call into question the validity of all contracts for enrichment services offered by DOE because of the basic and significant change from the established policy in place when all existing and prior contracts were signed.

The electric utility industry does not accept DOE's premise that the enrichment program for civilian customers has accumulated unrecovered prior costs of $7,522 million or that future prices for civilian services should reflect any portion thereof to provide funds for "repayment" to the U.S. Treasury. It does appear to be appropriate to reduce the Government investment account by $4,065 million by writing off plant capacity that will not be used in current or future enrichment operations. This would result in a new value of $3,457 million for the Government investment. However, this should not be identified as an unrecovered prior cost to be paid to the Treasury. As specifically stated on page 8 of the letter dated August 10, 1984, from the General Accounting Office to Congressmen Dingell and Ottinger: "DOE is not required to have a formal plan for repaying the Treasury for the government's cost of providing uranium enrichment services, nor does the legislative history indicate that the Congress intended the program to make specific repayments to the Treasury as is the case for some other programs."

The Edison Electric Institute strongly disagrees with the proposed new policy embodied in Section 762.6 for the following reasons:

1. Congress never authorized a debt account for the enrichment activity.

Congress did not require or permit the program to carry forward unrecovered costs to be paid at some future date. Congress established the program to provide enrichment services for civilian customers as one step specifically taken to encourage the healthy development of the nuclear industry. When the Atomic Energy Commission proposed the original Uranium Enrichment Services Criteria in 1966, the criteria were reviewed in detail during five full days of hearings before the Joint Committee on Atomic Energy. Subsequent changes were made in the criteria during the period from 1970 to 1974, each time after several days of hearings before the Joint Committee.

Congress recognized that a portion of the depreciation and interest on the facilities should be referred to in establishing the prices for civilian customers. However, in each and every year after 1969, Congress reviewed and approved the uranium enrichment services budget and did not indicate at any time that any amount of prior costs was being accumulated to be recovered at a later date. Congress directed the DOE to use the revenues received from the sale of enrichment services to its civilian customers to pay for operating expenses, research, and expansion of production capacity. Thus, customer revenues provided the funds to pay for increased Government investment.

At no time did Congress permit or require the uranium enrichment activity to establish a debt account that would suggest an ongoing repayment obligation. In other instances where the Government provides services, Congress specifically permitted the establishment of debt.

This was permitted for the Tennessee Valley Authority, for public power districts, and for the Nuclear Waste Program. This clear policy of not permitting the enrichment activities to establish a debt account defines the intent of Congress that costs were not permitted to be carried forward and recovered at some future date.

2. Retrospective establishment of an amount for "prior unrecouped Government costs" is inappropriate.
   No policy of carrying an amount for "prior unrecovered Government costs" was in effect during the first sixteen years of program operation, and no logic, accounting support, or other justification for this major policy change has been presented. This new concept does not reflect the understanding of the domestic civilian customers that have purchased enrichment services over the past sixteen years.

   Prices for enrichment services were set each year by DOE and its predecessor organizations on the basis of recovery of appropriate Government costs over a reasonable period of time. The customers paid for the service on that basis. There was no indication that some amount of additional Government costs were to be recovered at a future date. For DOE suddenly to determine that such costs do exist, through making an evaluation on a retrospective basis, is inappropriate, unwarranted and unacceptable.

3. Civilian customers should not have to pay for military facilities which have fulfilled their primary purpose.
   The first separate financial report of the uranium enrichment activity was published as the Financial Statement for the Fiscal Year Ending June 30, 1971, with opening balances established as of June 30, 1970. The initial

opening balance for the Government investment line item was approximately $1.5 billion, including physical plant, pre-produced inventory, and working capital. This investment had been made for military purposes and had been paid for in full prior to June 30, 1970. There was no indication that this initial Government investment was considered to be an unrecovered prior cost when the activity was initiated.

The initial value of the uranium enrichment physical plant as transferred to the uranium enrichment activities on June 30, 1970 was established at approximately $1 billion. This physical plant had been constructed at three locations over the period of the 1940s, 1950s, and 1960s, strictly for military production purposes. When the facilities were built, they were paid for by taxpayer dollars and were not justified as facilities to be used to provide enrichment services for civilian customers. However, they were productive facilities, and when the military needs decreased, they were made available to provide civilian enrichment services as one element of the Government effort to encourage the commercial use of nuclear energy. When the value of the physical plant was established for book purposes, Congress was well aware that the plant appropriately had been paid for by the taxpayers. Now, after the program has operated for over 16 years, it is inappropriate that a new policy should call for the payment a second time by electricity ratepayers.

The pre-produced inventory and the working capital were assigned an initial value of approximately $450 million as of June 30, 1970. The excess inventory was expected to be sold in the normal course of business.

4. Inventory costs incurred for purposes other than to serve civilian customers should not be charged to civilian customers.

Approximately $2 billion of the $3.5 billion that is referenced as the "prior unrecovered Government costs" represents an existing inventory of SWUs and uranium. These are saleable commodities, most of which were accumulated for the convenience of the Government, with only a minor portion needed to serve the civilian customers. Since much of this large inventory was not needed in the past and is not needed now to serve civilian customers, its costs, and the imputed interest thereon, should not be charged as a cost component to present-day civilian customers. These surplus saleable products should be placed in a strategic stockpile, or they should be sold. In any event, the surplus inventory and the accumulated imputed interest thereon should not be used as a component of the Government investment for calculating the imputed interest for the civilian enrichment activity.

While there is a need for some reasonable inventory to assure the timely delivery of product to customers, the inventory should be in the range of 120-180 days of projected demand. The pre-produced inventories, both before 1970 and since, have been much larger than that needed for a reasonable operating inventory to serve the civilian customers. Actually, in 1980 the finished inventory was greater than three times annual sales, equivalent to six to twelve times the level of a reasonable operating inventory. This large inventory was built for several purposes: to **make anticipated future sales that did not materialize, to satisfy military needs, and to serve non-proliferation/ national security goals.**

Even though the inventory was much larger than appropriate for normal commercial business inventory practices, the costs of the inventory and the imputed interest thereon were included in establishing the price for the civilian customers. This additional cost was not necessary to provide enrichment services to civilian customers and should not have been so assigned. A reasonable inventory for serving today's commercial customers is, at most, 5 million SWUs, compared to the actual inventory of over 15 million SWUs. In 1978, 1979 and 1980, the inventory exceeded 35 million SWUs -- clearly in excess of any reasonable operating inventory. In testimony before Congress in 1980 when the inventory was greater than 35 million SWUs, DOE indicated that the desired reasonable operating inventory was 9 million SWUs and that an additional 5 million SWUs should be set aside for non-proliferation purposes. This was the period when President Carter asked for large inventories for national security reasons. Thus, a substantial portion of the pre-produced SWUs and the uranium feed material inventories were established for reasons certainly not related to the civilian business. Yet the cost of and the imputed interest on those large inventories were assigned as a cost to civilian customers, and are now included as part of the alleged "prior unrecovered Government costs".

5. The approaches used by GAO and DOE to define "prior unrecovered Government costs" fail to recognize either Congressional intent or the history of the program.

The GAO has evaluated the uranium enrichment program in detail and has provided its views on what it considers to be the "Government's unrecovered enrichment costs". It has suggested a methodology that is simple and straightforward, but it does not recognize an appropriate allocation of the costs for purposes other than to serve civilian customers, and it does not recognize the actions of Congress in its annual budget review. Specifically, GAO defines the total government cost as the sum of: (1) the Government's initial investment in the program, (2) all appropriations, and (3) imputed interest. This simplistic methodology ignores or inappropriately dispenses with:

- Direction provided by the Joint Committee on Atomic Energy to the Atomic Energy Commission when the initial criteria were established and subsequently modified,
- Annual Congressional direction provided during the budget reviews each year in which Congress directed the Administration to use program revenues to offset operating expenses, perform research, and expand the production capacity,
- The fact that Congress has never authorized a debt account for the enrichment activity that would recognize any unrecovered government costs,
- The fact that the initial government investment set up on the books in 1970 was paid for in prior years by the Nation's taxpayers for military reasons,
- An appropriate allocation of costs that were incurred for military purposes,
- An appropriate allocation of costs that were incurred for non-proliferation/national security reasons, and,

- Program appropriation amounts that were not actually spent by the Administration in the enrichment activity.

The DOE appears to have taken a distinctly different approach to establish the newly defined "prior unrecovered Government costs". It apparently started with the line item in the Uranium Enrichment Activity Annual Report called "Government Investment" and redefined this line item as "prior unrecovered Government costs". In prior years, the Government Investment was shown as the value of the total assets minus total liabilities. This value should not be equated to "prior unrecovered Government costs." Like GAO, DOE appears to improperly dispense with the first six items listed above under the GAO approach.

Appropriately, a reduction of $4,065 million is taken by DOE as a write-off of plant capacity that will not be used in current or future enrichment operations. After the write-off, the remaining physical plant, inventory, and working capital are assigned a value of $3,457 million. This may be an appropriate value of the net assets. However, this should not be viewed as "prior unrecovered Government costs" that are to be paid to the U.S. Treasury. Any obligation to make payments to the Treasury should be recognized as something quite different from the value of the net assets.

6. The proposed criteria may call into question the validity of all DOE enrichment contacts with civilian customers. Customers who are now, or who were previously, a party to contracts with DOE or its predecessors, including the Utility Services Enrichment Contract as well as earlier Requirements and Fixed Commitment contracts, did not enter into any of these contracts with the understanding that "In establishing prices for providing enrichment services for

civilian customers" DOE would subsequently attempt to "establish reserves sufficient to return to the Treasury of the United States, over a reasonable period of time, previously unrecouped and unrecovered costs associated with provision of enrichment services to civilian customers." In fact, it had always been represented that the prices being charged for enrichment services under each of these contracts were sufficient to recover "appropriate Government costs" as required by the criteria.

7. Any determination of future payment to the Treasury must be based on a reasonable, annual comparison of appropriate Government costs with civilian revenues collected over the years.

If the intent of the Congress is to have the enrichment activity start making payments to the Treasury in the future, then the Congress needs to specify this along with the basis upon which such payments should be determined. In such a case, the approach taken should be developed using sound and supportable accounting principles, and should consider the dynamics and economics of the international competitive market that exists today to ensure that DOE will not be priced out of the market by trying to collect an alleged accumulated debt.

If some amount of prior unrecovered Government costs is determined to exist, and payments are to be made to the U.S. Treasury, the approach taken to define the value of such costs should be determined by using sound and supportable accounting principles. A sound approach that would recognize the intent of prior Congresses may be to create, for each year, a Statement of Operations on the basis of Generally Accepted Accounting Principles, showing the military, national security, civilian customer, and any other elements in separate columns with supporting details. Such a statement would provide valuable guidance essential to an equitable allocation of cost. The Statement of Operations and supporting data should provide the principal facts required for calculation of a current value on an earnings basis, and the deficits, surpluses, etc., which might be relevant at any time.

After properly applying Generally Accepted Accounting Principles, and recognizing the concerns expressed above, the relevant appropriate costs for serving the civilian customers should be compared with the revenues from the civilian customers. Such a comparison may well lead to the conclusion that all costs that were incurred to serve civilian customers have been fully recovered.

Enclosure 2

EDISON ELECTRIC INSTITUTE
SPECIFIC COMMENTS PERTAINING TO THE PROPOSED URANIUM ENRICHMENT SERVICES CRITERIA DATED JANUARY 29, 1986 (10 CFR PART 762)

762.1 General

(a) Authority

Authority does not appear to exist for the proposed section 762.6, Recovery of prior unrecouped Government costs. "... Section 161(v) of the Atomic Energy Act of 1954, as amended, does not include a repayment requirement but instead requires DOE to recover the government's costs of providing enrichment services." August 10, 1984 letter from J. Dexter Peach, of the United States General Accounting Office, to Congressmen Dingell and Ottinger.

(b) Eligible customers.

Acceptable.

(c) Capacity limitations.

This provides DOE with the appropriate flexibility to contract for enrichment services.

(d) Sales limitations.

Acceptable.

(e) Revision of criteria.

Acceptable

762.2 Definitions.

The definitions provided under paragraphs (a), (b), (c), and (d) are acceptable as proposed. However, several additional definitions should be added to this section.

The term "charges" is introduced in Section 762.5 without definition. Clarification of its relationship to the terms "prices" and "costs" is requested.

The term "reserves" is introduced in Section 762.6 without definition. Clarification of its relationship to the terms "prices", "costs" and "charges" is requested.

The expression "unrecouped and unrecovered costs associated with provision of enrichment services to civilian customers" is found in Section 762.6 without appropriate definition. A complete definition for this expression is requested.

762.3 Enrichment of uranium of foreign origin.

The proposed requirement that a "domestic customer shall certify the country of origin of feed material delivered to DOE" is an unwarranted duplication of existing reporting requirements that customers already have to DOE through the EIA and therefore should be deleted.

The existing criteria specifically states that after 1983 "there shall be no restriction of the furnishing of feed material of foreign origin for the provision of enrichment services." The proposed criteria also should include a similar statement to the effect that "There shall be no restriction of the furnishing of feed material of foreign origin for the provision of enrichment services." Section III to the Supplementary Information section of the Federal Register notice of January 29, 1986, under the heading "Enrichment of Uranium of Foreign Origin", develops at great length the numerous significant negative implications of any import restrictions on foreign uranium, and the clear lack of any positive implications of such restrictions. The information presented in Section III is correct and is supportive of including the above suggested statement in the proposed criteria. There is clearly a need to retain such a statement, which in fact is present in the existing criteria.

762.4 Prices.

It clearly is in the collective best interests of the United States Government, the U.S. Treasury, the DOE and all of DOE's customers that DOE have the flexibility to price its enrichment services in a manner that permits it to respond to changing market conditions.

762.5 Costs.

This section states that "appropriate Government costs" will be "determined on a basis that includes the costs incurred in providing enrichment services to civilian customers". The term "includes" in the above statement should be replaced with the expression "includes only".

Paragraphs (a) through (e) in this section should clearly specify the above stated intent that only those portions of each cost component associated with providing enrichment services to civilian customers are to be included.

Particular attention is required with regard to imputed interest as described in Paragraph (e). The "imputed interest on investment in plant, working capital, the natural uranium contained in those inventories at the DOE enrichment plants needed to provide enrichment services, and the separative work costs of pre-produced inventories" should be limited to that required to provide enrichment services to DOE's civilian customers. Costs incurred by DOE for reasons of national security or national policy should not be charged to the civilian customers. This also applies to the imputed interest that may be applied by DOE to any of the direct costs.

Thus, paragraph (e) should be changed to read: (e) Imputed interest on investment in plant needed for civilian production, working capital, the natural uranium contained in those inventories at the DOE enrichment plants needed to provide civilian enrichment services, and the separative work costs of reasonable operating inventories to serve civilian customers.

762.6 Recovery of prior unrecouped Government costs.

The "unrecouped and unrecovered costs associated with provision of enrichment services to civilian customers" have not been clearly described nor substantiated.

In the sentence "The estimate of such costs will include costs attributable to plant capacity used to provide enrichment services for civilian customers, but will not necessarily include costs attributable to plant capacity or other investments not properly allocated to the Government's costs associated with providing enrichment services to civilian customers" the word "necessarily" should be deleted to carry out the intent as described in Section III to the Supplementary Information Section of the Federal Register notice of January 29, 1986, under the heading "Recovery of prior Government costs." However, this entire section is unacceptable and should be deleted. See Enclosure 1.

762.7 Non-discrimination.

It is understood and thought appropriate that DOE will continue to offer enrichment services to its customers on a non-discriminatory basis. However, the concept of "similarly-situated customers" should be clarified.

762.8 Amendment of contract.

This provision, providing for amendment of the contract without additional consideration, is a standard part of most commercial contracts and clearly is desirable.

762.9 Termination by DOE.

Termination under paragraph (a) "upon reasonable notice at such time as commercial enrichment services are provided by another domestic source" should be available, with or without cost, to both DOE and the customer on the same basis.

Under paragraph (b) the expression "or becomes involved in bankruptcy proceedings" should be deleted. Involvement in bankruptcy proceedings does not in and of itself imply that the customer cannot meet its obligations under a contract.

762.10 Termination by customer.

As noted in comments to Section 762.9, termination by the customer should be available "upon reasonable notice at such time as commercial enrichment services are provided by another domestic source."

It is entirely appropriate that termination provisions, providing for termination by the customer, be included in any contract for enrichment services with DOE. It is also appropriate that "reasonable and appropriate charges for termination" be fairly negotiated.

762.11 Quantities of feed and product material.

This section provides DOE with the flexibility to operate its facilities in a manner that will enable it to best optimize its overall production costs. Proper use of such flexibilities is encouraged.

762.12 Customer's option to acquire tails materials.

Given DOE's ability to refeed tails material at its gaseous diffusion plants and the potential for AVLIS operation before the end of the century, the U-235 assay of the tails material that is delivered to the customer is important. Therefore the sentence "The U-235 assay of the tails material delivered to the customer will be within the sole discretion of DOE" should be deleted. The customer should be offered tails material at its transaction tails.

762.13 Responsibility for materials meeting specifications.

The customer should be protected through product specifications that address the isotopic composition of the product, particularly the Uranium-236 content. Appropriate terms and conditions for final acceptance of the product under such specifications should be provided within the contract.

762.14 Other terms.

This section provides both DOE and the customer with appropriate flexibility for negotiating an acceptable contract.

762.15 Prior contracts.

As discussed with respect to Section 762.6, customers who are now or who previously were a party to contracts with DOE or its predecessors, including the Utility Services Enrichment Contract as well as earlier Requirements and Fixed Commitment contracts, did not enter into any of these contracts with the understanding that "In establishing prices for providing enrichment services for civilian customers; DOE would subsequently attempt to "establish reserves sufficient to return to the Treasury of the United States, over a reasonable period of time, previously unrecouped and unrecovered costs associated with provisions of enrichment services to civilian customers." In fact, it always has been represented that the prices being charged for enrichment services under each of these contracts were sufficient to recover "appropriate Government costs" as required by the criteria. Consequently, it appears that if the final version of the proposed criteria includes Section 762.6, there may be sufficient basis for a legal finding that none of DOE's contracts, present or past, are in fact valid. It is not clear at this time whether these potentially invalid contracts could be amended in a mutually satisfactory manner to conform to the proposed criteria.

ATTACHMENT B

THE EVALUATION OF NUCLEAR WASTE REPOSITORY PROGRAM COST SHARING BETWEEN CIVILIAN AND DEFENSE WASTES

The purpose of this document is to summarize an approach to the sharing of those parts of repository program costs which are common to civilian and defense wastes and to illustrate the application of this approach using preliminary but reasonable cost and waste data.

BACKGROUND

On April 30, 1985, a formal decision was made by President Reagan to dispose of defense high level waste in repositories that include civilian (spent fuel) wastes rather than in a separate NRC-licensed repository dedicated solely to defense waste disposal. One of the principal reasons favoring this decision is that defense and civilian wastes can be emplaced for disposal in combined repositories at considerable savings relative to emplacement in separate repositories(1). An acceptable methodology for the equitable sharing of costs will have to be established. This methodology should become a part of DOE's established annual disposal fee evaluation process, and will have to be usable over an extended period. It is therefore important that it be based on sound principles of equity in cost sharing and the consistent application of appropriate methodology.

Costs which are unique to either Defense Waste or Civilian Waste, such as waste-specific transport or storage costs, would not be shared, but would be paid wholly by the Defense or Civilian programs, as appropriate. The remainder of this document provides:

1. A suggested set of basic principles for defining "equivalence" in cost sharing.
2. A suggested method for establishing the amounts and characteristics of actual and projected wastes for disposal.
3. An outline of the minimum capability of a costing methodology that will be consistently used to evaluate the long-term costs of separate and combined disposal programs.
4. A suggested cost sharing basis in which the above equity principles, projected waste loads and costing methdologies are applied to the determination of the fraction of costs to be borne by the defense and commercial sectors, and the timing of fee payments.

The document concludes with an illustrative estimate of cost sharing which is based on application of the basic equity principles to preliminary data on waste amounts, costs and the suggested cost-sharing and fee timing methodologies.

1. EQUIVALENCE IN COST SHARING

The NWPA, Section 302(b)(4), establishes the requirement that Defense Programs pay "for deposit in the Nuclear Waste Fund, amounts equivalent to the fees" paid by the utilities. DOE's regulations establishing terms and conditions under which waste disposal services are to be provided mandate that "fees to be paid by Federal agencies will be equivalent to the fees that would be paid under the contract" 10 CFR 961.5. "Equivalence" would include the following basic characteristics of the present utility fee structure.

1. The fees are based on actual past and evaluated future program costs and the proportional sharing of total program costs (as distinguished from just the cost increments due to Defense wastes) among all prospective repository users.
2. For wastes generated prior to April 1983, an appropriate one-time payment is due in June 1985. One-time payments made thereafter accrue interest from April 1983.
3. For wastes generated after April 1983, quarterly fees are due as the fission products are generated in reactors.
4. To the extent that the total of anticipated fees exceeds evaluated costs by some ratio, both Civilian and Defense fees should include that same margin ratio.

2. AMOUNTS AND CHARACTERISTICS OF WASTES

The physical numbers, size and thermal output of the basic waste disposal units that will be received by the repository and the corresponding times of origin of the fission products that ultimately become wastes going into the disposal units is a necessary part of any total cost evaluation, and must therefore be developed. However, it is believed that another basic principle should be established: that the numbers and characteristics of waste units will be based on the actual current amounts plus the best current estimate of projected operations of waste-producing facilities that are actually in current operation, or committed and in construction, and will not include the projected operation of projected power or production facilities. This will mean that estimates of utility spent fuel output will be based on the EIA "No new orders" case, rather than the current "Mid Case" of nuclear growth which includes the projected fuel output of projected reactors. It would also mean that the defense waste from projected new Defense production facilities will not be included. It would include current and projected wastes from the existing Savannah River, Hanford and Idaho facilities except those for which repository disposal is not indicated. The basis for this suggestion is that there is already a more-than-adequate lead time for planning the disposal of wastes when a new waste-generating facility is committed. Because there is already significant uncertainty dealing with the projected output of committed facilities, it is both unnecessary and possibly contentious to add the double uncertainty of the projected output from projected facilities. The very sound practice of periodic reviews of fee adequacy provides automatically for the future inclusion of new facilities at the time they are firmly committed. At that time, appropriate adjustment of fees and cost sharing would occur.

3. REPOSITORY PROGRAM COST MODEL

It is necessary to establish an acceptable reference waste disposal program and a related facility design and cost model that can realistically represent the timing and amounts of all relevant R&D costs, and facility capital, operating, and decommissioning costs. This program cost model should be sufficiently detailed that it can realistically represent total costs and cost differences in repository programs and facilities involving (i) only defense wastes, (ii) only commercial wastes, and (iii) both defense and commercial wastes. The reference waste disposal program and cost model should be similar to those currently in use by DOE in fee adequacy studies. It is essential that the same cost model be used for each system. This will assure that common design assumptions and common cost data are utilized. In this way the resulting cost differences reflect physical differences between systems, and are not due to differences in basic assumptions or data. Although the commercial and defense programs will each have non-repository program components, facilities and related costs which are solely specific to their respective wastes, the cost analyses done for cost sharing purposes should not include these. In general the cost-sharing analysis would include only the generic part of the current program development and evaluation (D&E) costs and the repository costs, and would exclude non-repository waste-specific costs such as spent fuel or defense waste transport. It would also exclude interim storage costs such as spent fuel storage R&D, MRS program costs or Defense R&D and DWPF storage costs, except where storage facilities are shared to reduce overall costs.

However, the commercial repository program requires two repositories whose operations are expected to be coordinated. The addition of defense wastes, even if limited to one of the two repositories, will affect both repositories. Furthermore, the annual fee evaluations must be based on two repositories. It is therefore desirable that cost sharing be based on a cost analysis that includes both repositories. It is also important that the evaluations recognize the probable continuation of disposal operations past the year 2020, based on wastes that originate through the year 2020, and include these in the overall cost evaluations. The year 2020 is picked to be consistent with the established disposal fee evaluation process.

4. THE BASIS FOR COST SHARING AND FEE DETERMINATION

The projected waste loads, and the repository program cost model are used to provide consistently-developed costs for repository programs involving:

1) Only defense wastes (a single repository)
2) Only civilian wastes (two repositories)
3) Combined defense and civilian wastes (two repositories)

It is expected that the unit costs of disposal will be the lowest in the combined-repository situation. The basic question, which is also the principal concern of this document, is "How are the total costs of the combined defense-commercial repository program to be shared between the defense and civilian sectors?"

There are a number of physical characteristics of the wastes which have an influence on waste disposal costs, and which could be proposed as a basis for cost sharing. Such possible cost sharing options include:

1) Costs shared in proportion to radioactivity (curies) at generation or at emplacement.
2) Costs shared in proportion to thermal output at generation or at emplacement.
3) Costs shared in proportion to volume of wastes or volume of excavation.
4) Costs shared on the basis of numbers of disposal packages.

Actual disposal costs depend moderately on thermal output at emplacement and on the numbers of disposal packages, and depend somewhat on the volume of wastes and on the radioactivity. However, significant portions of repository costs, such as the Development and Evaluation costs are essentially independent of waste characteristics. For single waste types such as spent fuel, which have the same basic form, and which cool for similar periods, energy production is a simple and reasonable basis for allocating costs among generators of that single waste type, and that is the basis for the 1 mill/kwh disposal charge for spent fuel. However, when wastes such as defense and civilian wastes differ markedly as to waste form and cooling period, no single physical measure can be expected to represent cost dependence with sufficient accuracy for cost sharing. Therefore, the most reasonable measure for cost sharing appears to be the costs, themselves. Furthermore, the basic methodology for cost-based cost sharing between defense and civilian wastes is already in place by virtue of the established methodologies and data for the periodic evaluation of civilian waste fee adequacy. Specifically, the evaluated costs of separate and combined repository programs can provide an equitable basis for cost sharing, as follows:

> Each sector (defense and civilian) is to pay a fraction of the combined-repository-program costs which is the same as that sector's fraction of the sum of the evaluated costs for separated repository programs.

The above cost sharing basis has the inherent characteristic that the cost savings resulting from combined operations are shared in proportion to cost obligations. This characteristic appears to be a central requirement for the equitable treatment of both sectors. In addition, this cost sharing basis has the advantages of being relatively simple in concept and of avoiding the potentially-contentious need to attempt assigning costs to each sector in a combined repository program. The costs themselves are used to make the basic cost sharing assignment. This will focus the attention of the cost evaluators on the fundamental issues of comparable and consistent system representation and design, cost methodology, cost data bases, and financial assumptions, including the effective discount rate.

Once the total combined-system costs and the portions to be burne by each sector have been determined, the amount and timing of fees can also be determined. This is done by allocating the costs within each sector on a per-unit basis which is related to when the fission products are generated. The commercial sector is already using energy generation as the fee basis (1 mill/kwhe). Because of security reasons, allocation on the basis of direct energy output may not be acceptablefor defense wastes , but some reasonable basis could be used such as "per equivalent waste package" if this were closely related to when the "equivalent waste packages" (i.e., fission products) were generated.

Since the commercial-sector fees are already established, the defense-sector fees are to be determined on a comparable basis. Using the pre-April/83 number of waste units and the subsequent annual units, the amount of the defense waste one-time and annual cost obligations can be determined. The defense cost obligations are then translated into fee obligations by adding the same percentage margin that the current 1 mill/kwhe commercial waste fee represents over the newly-evaluated unit costs for the commercial sector.

5. ILLUSTRATIVE EXAMPLE OF DEFENSE WASTE COST SHARING

The approach described above is demonstrated in this section. The purpose of this example is two-fold: to illustrate the suggested method with reasonable numbers; and to indicate the general nature of the results.

With respect to waste amounts, defense waste deliveries are as stated in the Defense Waste Management Plan, DOE/DP-0015(2), totalling 19,200 packages through the year 2020, plus an additional 5 years assumed to be at 650 packages/year so as to include disposal of all waste from the reprocessing of defense production fuels discharged through 2020 assuming 5-year cooling, consistent with the same assumption for civilian spent fuel.

The commercial wastes (spent fuel) are based on the EIA's no-new-order case with increasing burnup(3), totalling 80,700 MTU discharged through 2020. At an average disposal package loading of 6 PWR/18 BWR assemblies the number of commercial packages is estimated to be about 27,600. The assumed repository disposal rates for these packages are summarized in Table 1. The assumed operating periods of the commercial and combined repositories are shorter, and the disposal rate capacity of the second repository is less than for DOE evaluations, such as the Mission Plan(4) or the Fee Adequacy Assessment(5), because the amounts of spent fuel are less, consistent with the assumption that only the wastes from committed waste generation facilities are to be included. With a separate defense repository, a 28-year operating period is required. The first commercial repository is assumed to operate 10 years alone, plus 13 years overlapping with the second repository. The second commercial repository is assumed to operate alone for 5 years after 2020. In the combined repositories, the defense wastes go solely to the first repository during its operating period, and thereafter to the second repository.

It should be noted that the above evaluation includes two civilian repositories, instead of the single civilian repository assumed in the cost studies performed by Defense Programs(1). The fundamental reason for using two civilian repositories in the cost sharing analysis is that it appears undesirable to restrict defense wastes to a single repository in the absence

TABLE 1

ASSUMED REPOSITORY DISPOSAL RATES

		Operating Period		
	1998-2007 (10)	2008-20 (13)	2021-25 (5)	Totals
A. Separated				
Defense, Pkgs/yr	620	1,000	650	22,450 pkg.*
Civilian 1				
MTU/yr	3,000	1,500	-	49,500 MTU
Pkgs/yr	1,027	515	-	16,965 pkg
Civilian 2				
MTU/yr	-	1,825	1,500	31,200 MTU
Pkgs/yr	-	625	515	10,700 pkg
B. Combined				
Repo 1, MTU/yr	3,000	1,500	-	49,500 MTU
Civilian Pkgs/yr	1,027	515	-	16,965 pkg
Defense Pkgs/yr	620	1,000	-	19,200 pkg
Total Pkgs/yr	1,647	1,515	-	36,165 pkg
Repo 2, MTU/yr	-	1,825	1,500	31,200 MTU
Civilian Pkgs/yr	-	625	515	10,700 pkg
Defense Pkgs/yr	-	-	650	3,250 pkg
Total Pkgs/yr	-	625	1,165	13,950 pkg

* This total is the 19,200 packages available for disposal, plus 650 pkgs/yr for 5 years, based on defense production fuel discharges and 5-year minimum cooling, consistent with civilian fuel discharges through 2020.

of analyses which define the best operating mode for a two-repository system. For example, transportation impacts and costs are clearly reduced if DWPF wastes were to be shipped to the second repository presumably located in the eastern U.S. once that repository were opened. Basic system operating strategy probably requires that both repositories be capable of disposing of both defense and civilian wastes, as backup in the event of difficulties at either repository, and in anticipation of filling and closing the first repository. The fee evaluation process is already established as a two-repository evaluation and this should continue when defense wastes are added to the system. For these reasons, it is suggested that a two-repository system, including defense wastes, be the basis for the cost-sharing evaluation.

The waste package characteristics which have the strongest impact on costs are summarized in Table 2. The defense waste package has a slightly larger diameter than the commercial package and therefore costs somewhat more. However, the defense waste package has only 1/6 of the thermal output of the commercial package and is only 77% of its length. Because of this, it requires only 1/6 of the underground area and 1/8 of the placement corridor mining compared to the commercial wastes. Further, because of this reduction, the defense repository may be operable with fewer deep shafts (4 per repository vs. 5 for the commercial repository). These principal differences are reflected in the costs.

TABLE 2

ASSUMED WASTE PACKAGE CHARACTERISTICS

	Defense Package	Commercial Package
Contents:	DHLW	6 PWR/18 Bwr (2.92 MTU/pkg)
Thermal Output, Watts	500	3,000
Waste Overpack ID	61 cm	45 cm (consolidated)
Waste Canister Height	10 ft.	13 ft.
Waste Overpack Cost (1983)	$40,800	$26,100
Total No. of Packages	22,450	29,550

The cost methodology used for this preliminary assessment is based on the methodology used in the WADCOM (WAste Disposal COst Model) computer program(6). It represents the principal dependences of repository capital and operating costs on repository capacity, and on waste package characteristics, principally package size and thermal output. The overall costs are normalized to the bedded salt costs in 1983 dollars from Table 10-6 of DOE's Draft Mission Plan(4) and increased by 19% to be consistent in aggregate with the first salt repository (1984) costs in Table 1 of the Fee Adequacy Assessment(5). The latter costs are generally consistent with the aggregate costs in Table 10-9 of the Final Mission Plan(4). The resulting cost model is believed to provide a reasonable representation of repository costs and cost differences that are related to variations in repository capacity and waste package characteristics. The results will be internally consistent in the sense that basic assumptions and cost data are common to all cases, and the cost differences that are generated will be due to identifiable physical differences between systems.

The cost analyses were performed on three systems:

1) A defense-only repository
2) Two commercial-only repositories
3) Two combined defense-commercial repositories

The repositories which include commercial waste perform the fuel consolidation function in repository surface facilities. The defense-only repository does not need this function and saves the associated capital and operating costs. In the combined repositories, cask handling and waste package handling and disposal facilities are larger to accommodate the added requirement due to defense wastes. The same amounts of waste disposal are assumed to occur each year in both the separate and combined systems. In addition, development and evaluation (D&E) costs for the first and second repositories are included, and are taken from Table 1 of the Fee Adequacy Analysis(5). The total of $7.5 billion is assumed to be divided into $4.0 billion for the first, and $3.5 billion for the second civilian repositories.

With respect to the D&E costs, there is some debate as to the extent to which a Defense waste-repository has to undertake the full and complete NWPA-specified process of site nomination, recommendation and final selection, and the related extensive public participation process. However, a Defense repository must be licensed by the NRC and this involves the extensive characterization of three sites, plus the public participation that is inherent in the NRC licensing process. It is virtually impossible to predict the net Defense D&E cost savings that would arise from the procedural differences between the Defense and Commercial siting and licensing process. However, because of the nature of the NRC licensing process, including its established and well utilized provisions for public participation, the Defense and Commercial D&E costs for the Defense and first Civilian repositories are judged to be essentially identical at $4.0 billion.

The cost results are summarized as follows:

	Total Costs, $-million (1984)					
	Waste Pkg	Disposal	Subtotal	D&E	Total	%
Defense-only	1,410	2,940	4,350	4,000	8,350	32
Commercial 1	1,600	4,100	5,700	7,500	17,700	68
Commercial 2	1,150	3,350	4,500			
Totals			14,550		26,050	100
Combined 1	2,640	4,950	7,590	7,500	20,000	
Combined 2	1,350	3,560	4,910			
Totals			12,500		20,000	
% Saving over Separate Repositories:			14%		23%	

The basic conclusions of the above are 1) that both the Defense and Civilian programs will save over 20% of common costs by combining repository operations, and 2) that the defense repository costs would be approximately one-third of the shared portion of the combined repositories program costs.

It is worthwhile to understand the basic reasons for the general level of defense waste disposal costs relative to commercial costs. In this regard, it has been noted (1) that defense wastes have only 15% of current total radioactivity and this level will be down to 3% by the year 2000. Considered in isolation, these facts can create the impression that defense waste disposal costs should be small, relative to commercial costs. On the other hand, the waste forms are significantly different and this is quantified by the more than 22,000 large defense waste packages as compared to the less than 28,000 smaller commercial waste packages anticipated to originate through 2020. By this particular measure, defense wastes are 45% of total wastes. The key point is that it is costs that are being shared and particular physical characteristics are important to cost sharing only to the extent that they influence costs. The basic reasons that the single Defense repository program has evaluated costs that are about one-third of total separate-repository program costs are 1) the Development and Evaluation (D&E) cost is about $4 billion per repository and is essentially independent of waste characteristics, 2) the large number of defense waste packages which offset the real cost savings from the lower thermal output of defense wastes, and 3) the significant level of fixed repository capital and operating costs such as surface facilities, shafts, underground development and ventilation, that are largely independent of waste characteristics and amounts. In summary, the principal source of the savings from a combined Defense-Civilian, 2-repository program as compared to a separated 3-repository program is the avoidance of D&E costs for 1 repository, amounting to about $4 billion, plus the avoidance of fixed facility costs, amounting to an additional $2 billion.

Once the costs of the combined repository program are evaluated, and the defense portion allocated, the amount and timing of defense waste fees can be determined. First, the margin ratio of current Commercial fees over current Commercial costs must be evaluated. This margin ratio of fees-to-evaluated-costs applies to both repository and non-repository costs in the Commercial program but it applies equally to all costs. It is therefore appropriate and equitable to apply this same ratio to evaluated Defense costs in order to determine Defense waste fees. Continuing to use the above example for illustration, the Commercial portion of the combined repository program costs is 68% of $20 billion, or $13.6 billion. To this must be added other program costs which are specific to Commercial wastes, such as spent fuel transport, and spent fuel storage R&D. If these added costs were $5.2 billion, the total evaluated cost would be $18.8 billion. The fee margin is determined by ratioing expected commercial fee revenue at 1 mill/kwh to this total evaluated cost. The EIA No-New-Orders Reference case, on which the spent fuel output estimates are based, shows a revenue of about $22.5 billion. This is then ratioed over the total evaluated commercial program cost to determine the overall fee margin, 1.2 in this example. This same margin would be applied to the defense waste costs, as follows: Evaluated defense costs are 32% of $20 billion or $6.4 billion. Applying the 1.2 fee margin to this yields $7.7 billion as the defense fee base. If this is allocated on a per-package basis, the average per-package cost is about $345,000 over 22,450 waste packages. Assuming, hypothetically, that the pre-1983 waste inventory of Savannah River, Hanford and Idaho wastes is the equivalent of 5000 packages, and the wastes which will make up the remaining 17,450 packages are being produced over the remaining 38 years through 2020 at an average rate of 460 packages/yr, an immediate one-time payment of $1.7 billion and an annual average payment of $158 million would be indicated for defense wastes. It should be noted that although the fee margin ratio is sensitive to the particular waste management and cost scenario chosen for the evaluation, when it is used with an already-fixed Commercial unit fee to develop the Defense fee, the latter is not particularly sensitive to the cost evaluation scenario. In fact, to the extent that defense and commercial costs and waste amounts maintain relative relationships across various scenarios, the per-unit defense waste fee is insensitive to the evaluation scenario. It is therefore desirable to select one or more reasonable scenarios for evaluation of an equitable defense fee, but it is not anticipated that the defense fee will be significantly influenced thereby. The two most sensitive factors to the results of the evaluation appear to be 1) the relative amounts and characteristics of the two wastes, and 2) the costs of those parts of the repository where waste amounts and characteristics have the largest influence on costs.

CONCLUSIONS AND RECOMMENDATIONS

The principal conclusions and recommendations of this document are:

1. Equivalence in the sharing of costs of nuclear waste disposal between the Defense and Civilian sectors should require that both sectors pay fees based on the same principles that have already been established and implemented for the Civilian sector.

2. The evaluated costs of separated and combined repository programs provide a sound basis for determining and sharing the cost savings that will result from combined repositories. It is recommended that the fraction of combined-program costs borne by each sector be proportioned to the evaluated costs of separate repository programs. This results in sharing the cost savings in proportion to cost obligations.

3. An illustrative example of Defense waste cost sharing has been provided herein, based on waste and cost data that are believed to be reasonable. This preliminary analysis indicates that the appropriate level of Defense waste cost sharing is in the range of one-third of combined-repository program costs. It is the principal recommendation of this document that the level of Defense waste cost sharing be established with greater rigor and precision than was appropriate for this preliminary scoping document.

REFERENCES

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(2) U.S. Department of Energy, "The Defense Waste Management Plan", DOE/DP-0015, June 1983

(3) U.S. Department of Energy, Energy Information Administration, "Projections of U.S. Nuclear Power Plant Capacity, Generation, and Spent Fuel Discharges, 1984-2020", SR-NAFD-84-01, March 1984

(4) U.S. Department of Energy, "Mission Plan for the Civilian Radioactive Waste Management Program", (Draft), DOE/RW-0005, April 1984; (Final) June 1985

(5) U.S. Department of Energy, "Nuclear Waste Fund Fee Adequacy: An Assessment", DOE/RW-0020, February 1985

(6) Battelle Memorial Institute, "WADCOM: A Waste Disposal Cost Model", ONI-6, June 1983.

ATTACHMENT C

Edison Electric Institute
Board of Directors
Meeting on March 13, 1986

Resolution on Integral Monitored Retrievable Storage Facility (I-MRS)

The Edison Electric Institute (EEI) supports the Department of Energy's general course of action for the implementation of the Nuclear Waste Policy Act of 1982 (NWPA). The final disposal of nuclear waste is to be in deep underground geologic repositories as mandated by the NWPA. The DOE Proposal for the construction of an Integral Monitored Retrievable Storage Facility (I-MRS) is a positive and appropriate step for the overall nuclear waste disposal program. We urge Congress to direct the DOE to proceed with the I-MRS and to require DOE to implement the Improved-Performance Plan described in the June 1985 Mission Plan for the Civilian Radioactive Waste Management Program. There are six significant advantages of an I-MRS stated in the DOE Proposal: (1) improvement in system development, (2) earlier waste acceptance, (3) greater reliability and flexibility, (4) simplified repository surface facility, (5) improved transportation system and, (6) institutional interaction benefits. Including an I-MRS as one element of the disposal system will enhance the overall DOE Nuclear Waste Disposal program.

STATEMENT OF NORTHEAST TEXAS ELECTRIC COOPERATIVE, INC.

Mr. Chairman:

I am William D. Heldt, President of Northeast Texas Electric Cooperative, Inc. ("NTEC"), a generation and transmission cooperative located in Longview, Texas. I appreciate the opportunity to submit the following statement to express NTEC's concern with the Administration's recent proposals to sell the Federal power marketing administrations ("PMAs") and to modify the debt repayment system now employed by the PMAs.

NTEC is a generation and transmission cooperative, which through its member distribution cooperatives, serves eighteen counties in northeast Texas and two parishes in Louisiana. NTEC's members include: Bowie-Cass Electric Cooperative, Deep East Texas Electric Cooperative, Panola-Harrison Electric Cooperative, Rusk County Electric Cooperative, Upshur-Rural Electric Cooperative, and Wood County Electric Cooperative. On behalf of its members, NTEC purchases approximately 128 MW of Federal hydroelectric power generated at the Narrows Dam in Texas. NTEC and its predecessor entity have purchased this power for approximately 25 years.

When the Federal power marketing program first began in the 1940's, the cost of other sources of power was far less expensive than hydroelectric power. However, as President Franklin D. Roosevelt stated at the dedication of Bonneville Dam in 1937, the development of Federal power projects was important "for a better life for our children and a better future for our country." Rural electric cooperatives and municipalities supported the concept of public power when investor owned utilities did not. The cooperatives and municipalities purchased the output from Federal dams to further the growth of this public resource. With the support of these public bodies, power marketing administrations, such as SWPA, were able to grow and develop additional sources of hydropower.

In Texas, there are approximately 88 rural electric cooperatives, including 77 distribution systems, three operating generation and transmission systems, and eight organizations which do not operate facilities but represent their member systems in negotiations with wholesale power suppliers. The Texas cooperative systems own and operate 241,231 miles of transmission lines to serve approximately 956,000 meters. The rural electric industry is often times the largest industry in its service area and often represent the largest single taxpayer to the local governments. In 1985, over 5,000 individuals were employed by the industry.

Rural electric cooperatives provide an important service to the country and now number more than 1,000 and serve more than half of the nation's rural consumers in 46 states, Puerto Rico and the Virgin Islands. They have effectively electrified rural America, but the job is not yet complete. There are new customers to be served and existing customers are making increasing demands. The better future referred to by President Roosevelt in his speech dedicating Bonneville Dam has not yet been realized.

Federal hydroelectric power represents approximately 32 percent of the electrical demand that NTEC must supply and approximately 10 percent of its total energy (the use of capacity over time). It is by far the least expensive power purchased by NTEC. It has been estimated that the net benefits to NTEC and its member distribution cooperatives from the preference power allocations which NTEC members receive from the Southwestern Power Administration ("SWPA") equal approximately $9.5 million. This figure is based on NTEC's current crediting arrangement with Southwestern Electric Power Company ("SWEPCO"). If SWPA were sold and NTEC no longer received its current allocation, or if the purchaser of SWPA were to utilize market-based rates rather than cost-based rates, it would cost NTEC and its consumers approximately $9.5 million per year to replace that power and energy with purchases from SWEPCO's system.

NTEC could not survive the sale of SWPA. Many of the consumers now being served by NTEC could not sustain their portion of a rate increase, which would result from the sale of SWPA to a private utility. The mere size difference between NTEC and its competitors (i.e., private investor owned utilities) means that without the ability to rely on Federal hydropower, they would be unable to compete. Currently, cooperatives provide an alternative to electric consumers. The sale of the PMAs would establish private monopolies and eliminate the competition between public and private power that now exists in the industry.

In addition to the effects which the proposed sale would have on NTEC, the sale of SWPA would amount to the "fire-sale" of a money making enterprise. Currently, all of the power marketing administrations are financially sound and contribute more to the U.S. treasury each year than they withdraw. It makes little sense to sell a money making asset which has been part of a public trust for the past forty years. The annual budget is actually reduced by virtue of the sound business planning and administrative efficiency attributable to the PMAs.

The impact which the sale of the power marketing administrations would have throughout the country has been widely discussed. Nowhere will this impact be felt more significantly than in Texas. The Texas economy is suffering from the drop in oil prices. Industries that have planned their growth based on $25.00 or more per barrel are now finding themselves in difficult times. The sale of the PMAs would further the economic depression in Texas.

The proposal to sell the power marketing administrations is merely a short-term expediency at an unacceptable long-term price. The hydroelectric dams in the power marketing administrations are among this nation's most valuable assets. They have assisted in generating prosperity in many parts of the country. They have not contributed, and as a matter of fact, have helped mitigate the effects of a spiraling annual deficit. NTEC urges this committee to defeat the Administration's proposal.

Finally, NTEC submits that the modification of the debt repayment schedule being proposed by the Administration is nothing more than an attempt to circumvent the cost based rate system established in the Flood Control Act of 1944, 16 U.S.C. § 825s. The method of repayment which is being proposed, the straight line amortization method, would replace the compound interest rate repayment schedule now employed. Under the straight line method, payments consist of equal amortization amounts and declining interest payments thoughout the repayment period. In the early years, payments are high and gradually decline over time. It has been projected that if the straight line method were adopted, SWPA rates would increase approximately 10% - 15%. The artificially raised rates in the early years would severely injure current customers.

NTEC urges this committee to consider the effects which the proposals now before it would have on the rural electric cooperatives throughout the country and act to preserve the principles of public power established over forty years ago.

STATEMENT OF ASEA, INC.

SUMMARY

Last year, Congress included a "Buy American" provision in Public Law No. 99-141, the Energy and Water Development Appropriations Act for fiscal 1986, which requires the Tennessee Valley Authority and the federal power marketing administrations to purchase U.S.-origin extra high voltage equipment at prices that are as much as 25 percent above competitive levels. The purpose of this restriction is to encourage countries that close their markets to U.S. exports of extra-high voltage equipment to change their policies and support free trade.

ASEA Inc., which sells and manufactures EHV equipment in the United States, and ASEA AB, its Swedish parent company, strongly support the U.S. effort to open closed foreign markets. Sweden, as well as the United States, suffers from the unfair trade practices of certain countries. Last year's "Buy American" provision, however, is overbroad and encompasses imports from Sweden, a country with a clear record of free and fair trade in heavy electrical equipment. Therefore, if the restriction is continued this year, we believe there should be an exception for exports from open market countries such as Sweden.

* * *

INTRODUCTION

My name is John O'Hara. I am the President and Chief Executive Officer of ASEA Inc., the principal U.S. operating company of ASEA AB, a multinational manufacturing firm headquartered in Sweden. I am submitting this statement on behalf of ASEA Inc.

At present, ASEA group activities in the United States consist of 11 operating units employing more than 2,200 men and women at some 39 locations throughout the country. Our parent, ASEA AB, was founded in 1883; it today ranks as one of the world's ten largest electrical and electronics companies. ASEA is a leading supplier of equipment for hydro, nuclear, and high voltage electrical equipment. ASEA is also a technological leader in high voltage direct current ("HVDC") transmission and reactive power compensation.

We are here to discuss the Buy American restriction Congress included last year in Pub. L. No. 99-141, the Energy and Water Development Appropriations Act for fiscal 1986. The provision requires the Tennessee Valley Authority and the federal power marketing administrations ("PMAs") to purchase U.S.-origin extra high voltage ("EHV") equipment at prices that are as much as 25 percent above competitive levels. According to last year's House Committee Report, the restriction was imposed because U.S. manufacturers of EHV equipment are being injured by foreign manufacturers that (a) operate in home markets closed to U.S. competition (b) are subsidized by their governments, and (c) dump their products at less than fair value in the United States.

We agree that there is a need for legislation that responds to the unfair trade practices of foreign countries who follow such practices. ASEA faces these same unfair trade practices when it tries to sell in those countries. However, we do want to highlight the unfairness of a Buy American provision which does not distinguish between countries that open their markets to U.S. manufacturers and those that do not.

I. THE JUSTIFICATIONS FOR THE BUY AMERICAN RESTRICTION DO NOT APPLY TO ASEA AB OR SWEDEN

Sweden's market for EHV equipment is open to U.S. exports. Sweden has a proven record of providing unrestricted market access to foreign suppliers of heavy electrical equipment. Since 1978 (the first year for which statistics are available) the U.S. has a total surplus of $497 million in trade with Sweden in power generating and electrical machinery as shown by the following:[1]

In Millions of U.S. Dollars

	1978	1979	1980	1981	1982	1983	1984	1985
U.S. exports	126	196	205	193	192	193	242	238
U.S. imports	72	84	96	110	99	139	173	315
U.S. surplus	54	112	109	83	93	54	69	-77[2]

Moreover, Sweden, unlike the United States, has no laws which require government entities to prefer Swedish manufacturers. In fact, Swedish law prohibits application of evaluation penalties such as those included in the Buy American provisions. The Swedish State Power Board (the Swedish equivalent of the federal power agencies) is required to base purchase decisions only upon commercial considerations, without preference for products manufactured in Sweden. In addition, Sweden's import duties on EHV equipment are approximately the same as those of the United States.

U.S. manufacturers have the full opportunity to compete under the Swedish government's open procurement policies. Recent major purchases of U.S. equipment by the Swedish State Power Board (made even though ASEA was a competitor) include:

- EHV power circuit breakers
- EHV generator step-up power transformers
- three nuclear reactors

In recent years, the Swedish State Power Board has made between 20 and 30 percent of its purchases from foreign suppliers.

Finally, Sweden is a signatory to the GATT Government Procurement Code, and has supported efforts to add EHV equipment to the Code. Attached is a recent statement by the Swedish Ministry for Foreign Affairs confirming that country's endorsement of expansion of the Code. Sweden's long-standing support for broadened coverage of the Code has been acknowledged by the U.S. Departments of State and Commerce.[3]

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[1] Source: U.S. Department of Commerce Annual Export/Import Statistics. These statistics are for SITC codes 71 (power generating machinery) and 77 (electrical machinery and electrical apparatus).

[2] The 1985 deficit is due largely to the significant increase in the value of the dollar in early 1985. However, since then the value of the dollar in relation to the Swedish Kroner has declined 20 percent, making U.S. products much more competitive.

[3] General Accounting Office, "The International Agreement on Government Procurement: An Assessment of its Commerical Value and U.S. Government Implementation," (July 16, 1984) at 58, 68.

ASEA is a fair competitor in the United States. ASEA AB is an investor-owned company that finances its own research and development. It receives no government subsidies and no tax rebates or subsidies for exports to the United States.

In addition, ASEA's products are sold in the United States at fair prices. In 1972, the U.S. Government determined that power transformers from five countries had been sold at less than fair value in the United States.[4] ASEA was the only company reviewed during that investigation which was dismissed from the proceeding without the imposition of an antidumping order.[5]

ASEA has brought significant benefits to the U.S. economy. It has transferred important technology to the United States. For example:

- ASEA introduced HVDC technology to the United States, licensed that technology to General Electric, and built the first U.S. HVDC project in a joint venture with General Electric in 1964.
- ASEA jointly financed and built (with American Electric Power Co.) an ultra high voltage demonstration project in Indiana.
- ASEA introduced advanced arrestor technology to the United States by licensing Ohio Brass to manufacture arrestor products in the United States.
- ASEA has built a Power Systems Center in New Berlin, Wisconsin with one of the most sophisticated transmission system simulators in the United States, which is used, in part, to perform development activities for U.S. utilities.

II. ASEA's CONCERNS ABOUT "BUY AMERICAN" RESTRICTIONS

The Buy American restriction will limit the growth of ASEA's U.S. operations. ASEA's U.S. operations have been expanding steadily over the past few years, and continued rapid growth is projected. For example, present plans for ASEA Electric (an ASEA Inc. subsidiary) call for an additional 400 employees in the Milwaukee area. Unwarranted restrictions on imports of Swedish equipment and technology, however, would severely impede this growth for the following reasons:

- ASEA AB transfers manufacturing operations to the United States when demand for ASEA's products warrants the capital investment. For example, sales of ASEA's Swedish-made circuit breakers in the United States have now expanded to the point where we can increase the U.S.-manufactured portion of the circuit breakers that we build in Wisconsin. This plan is now underway.
- Sales of transmission projects by ASEA Power Systems translate into sales of components by ASEA Electric. When ASEA Power Systems (an ASEA Inc. subsidiary) receives a contract to construct a major transmission system, it must supply a wide variety of components. Some of these components are imported from Sweden, but an

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[4] See 37 Fed. Reg. 8136 (April 23, 1972).

[5] See 37 Fed. Reg. 961 (Jan. 21, 1972).

> important part will be purchased from ASEA Electric as well as from other U.S. manufacturers.

Thus, rather than protecting U.S. jobs, the "Buy American" restriction may end up preventing ASEA from expanding its U.S. operations to offer new employment opportunities for U.S. workers and produce new products not currently manufactured in the United States.

The Buy American restriction will reduce competition in the United States and penalize the wrong country. The 25 percent Buy American subsidy ignores the benefits of competition to the federal agencies that procure EHV equipment. Participation by fair competitors, such as ASEA, stimulates healthy competition over price and promotes technical innovation. For example, General Electric is the only U.S. competitor in HVDC transmission. The 25 percent Buy American differential gives General Electric a monopoly over federal procurement of HVDC equipment and ultimately will lead to higher prices and inferior quality. In contrast, an open market exception would provide for competitive bidding in EHV procurement and help keep prices at a reasonable level. Moreover, by stopping imports from Sweden, which has been an open market for this equipment, the United States would be sending out the wrong signal to its trading partners and risking the elimination of incentives for others to open up their home market to U.S. manufacturers.

* * *

In conclusion, although I support the effort to encourage countries to open their markets, I believe that application of the 25 percent "Buy American" differential to Sweden is unfair to ASEA and inconsistent with the original objectives of the "Buy American" provision in Public Law No. 99-141 as well as U.S. trade policy. The U.S. Government has been encouraging other countries to open their markets to fair competition. When the U.S. Government closes its electrical power equipment market to exports from open market countries such as Sweden, it is engaging in the same unfair trade practices with which it has charged other countries. In addition, this Buy American restriction may reduce the growth of an important new U.S. manufacturer -- ASEA, Inc.

Therefore, if the 25 percent "Buy American" restriction is retained, it should contain an exception for open market countries such as Sweden.

STATEMENT OF NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION

Mr. Chairman and Members of the Subcommittee:

I am Bernard H. Falk, President of the National Electrical Manufacturers Association (NEMA). I want to thank you for this opportunity to present the concerns of NEMA and its members regarding the challenges and threats to the U.S. electrical power industry from unfair foreign trade practices.

The U.S. electrical power equipment manufacturing industry is the world leader in both technological advances and economic efficiency. Nevertheless, the industry is in a precarious condition. It has suffered, and continues to suffer, from unfair trading practices and unequal competitive access to overseas markets.

Foreign manufacturers of heavy electrical equipment have consistently been able to sell their products in the U.S., while their home markets have been effectively closed by their governments to our products. In many cases, this institutionalized protection acts as a subsidy, enabling the foreign companies to undercut U.S. goods in both the American and third country markets. This lack of equivalent competitive opportunities threatens the collapse of the U.S. electrical power equipment industry.

Last year the Congress took an important first step in redressing this inequity by increasing the "Buy American" differential for federal purchases of extra high voltage electric power equipment. Today, NEMA urges you to continue this 25 percent differential in the appropriation for fiscal year 1987.

As we have said before, NEMA does not come to this conclusion quickly, or without giving considerable thought to its implication. For nearly two decades, NEMA and its member companies have sought reciprocity and equivalent competitive opportunities for electrical power equipment. We have pursued this goal forcefully in every trade negotiation since the early 1960's. Despite these efforts, there is not even token reciprocity from other industrialized nations, regardless of whether or not their electric utilities are government owned. Electrical manufacturing companies in these nations, operating from a base of protected home markets, enjoy a built-in competitive advantage against U.S. companies both here and in third country markets.

Consider for example the outlook for the power transformer segment of the electrical equipment industry. Since the early 70's, the annual physical volume of shipments from U.S. companies is down 72 percent. U.S. employment in that industry dropped from 10,000 jobs in 1971 to 4000 in 1985. This represents a loss of skills and experience that may be irreplaceable.

In contrast, imports of foreign manufactured power transformers have increased rapidly, from 7 percent of the U.S. market in 1970-74, to 10 percent in 1975-79, to nearly 19 percent today.

What is causing this decline in market share for domestic producers? In September 1983, the General Accounting Office (GAO) found that unlike U.S. manufacturers, foreign manufacturers get significant government incentives to export their products, and that greatly aids them in their competition in the U.S. and other markets. In some cases, the GAO reported, foreign manufacturers are selling products both in the U.S. and in third country markets below their costs in order to maintain jobs and utilize their facilities. This is being done at the expense of U.S. skilled workers and the U.S. ability to produce heavy electrical equipment.

The GAO report says that between 1977 and 1981, 51 percent of the purchases of heavy electrical equipment by federal power agencies were from foreign manufacturers. In contrast, an Edison Electric Institute (EEI) survey conducted for the GAO reported that less than 15 percent of the purchases of investor-owned utilities were from foreign manufacturers.

The industry has not been idle in bringing this dilemma to the attention of the government. In 1972, the Office of Emergency Preparedness was informed about the problem in the extra high voltage (EHV) power circuit breaker segment and corrective action was requested. No action was taken, the government arguing that no U.S. manufacturer had dropped out of the business. Of the four manufacturers developing, designing and producing EHV breakers in the early 1970's, none is in business in 1986. Of the five manufacturers of EHV power transformers in the 1970's, only three remain in business. And of the four manufacturers of shunt reactors in the early 1970's, only one remains in business.

How best to respond is, of course, the question. The Congressionally-mandated section 302(d) report of the 1979 Trade Agreement sets forth a series of Administration proposals aimed at achieving equity and equivalent competitive access for this product sector. During the negotiations of the Government Procurement Code in the 1979 Tokyo Round, NEMA urged the inclusion of government entities which purchase electrical power equipment. The U.S. negotiators were unsuccessful in obtaining that inclusion because European governments would not agree. The proposals in the 302 report include expanding the entities covered by the Code through renegotiations and increasing the "Buy American" differential applicable to procurement. Renegotiation of the Code started in earnest in November 1983. As stated in the 1981 United States Trade Representative's Section 302 report, "if the United States is unable to obtain the agreement of other developed country Code signatories to expand their entity coverage by January 1, 1985, the USTR will recommend to Congress appropriate actions to achieve reciprocity." No progress has been made in the heavy electrical product sector and none is expected by most observers. I fully appreciate that renegotiation is multi-faceted and complex and I understand the Administration's position that renegotiation is the preferred approach, however, the renegotiation approach by itself offers no hope in achieving market access and reciprocity.

NEMA believes the long record of failure to achieve equivalent competitive opportunities and to open the markets of major competitors leaves the United States with only one course of action: to continue to exert pressure and impose progressively stronger countermeasures on such competition until equity and equivalent competitive opportunities are provided.

Based on the action which Congress took last year, the goal of achieving equivalency may be a bit closer. We are encouraged that there has been some movement by the federal utilities to implement the 25% differential in FY-86 procurement. We are also encouraged by recent government discussions to counter unfair and discriminatory procurement practices. Lastly, there has been some strengthening in the renegotiation of the Code to include utilities. The retention of the 25% differential is needed to continue the momentum and progress toward achieving equivalency.

Should the differential not have the desired effect of providing equivalent opportunities for U.S. manufacturers, stronger counter measures will be sought through legislation and through the upcoming new round of trade negotiations. In that regard, NEMA is actively involved in providing negotiation objectives and advice to our trade negotiators.

Therefore, bearing in mind that the objective is to induce foreign governments to truly open up their markets, NEMA urges that similar language be included in the fiscal 1987 legislation.

Thank you.

STATEMENT OF AMERICAN COLLEGE OF NUCLEAR PHYSICIANS AND SOCIETY OF NUCLEAR MEDICINE

SUMMARY

The Society of Nuclear Medicine and the American College of Nuclear Physicians recommend an appropriation of $23.3 million for the Nuclear Medicine Applications program of the Department of Energy in Fiscal Year 1987. Although this is significantly below the level needed to adequately support existing facilities or to take full advantage of research opportunities now evident, this appropriation would at least maintain DOE Nuclear Medicine research at its current level.

The Society of Nuclear Medicine is a scientific organization of 10,000 members including physicians, physicists, chemists, radiopharmacists, technologists, and other professionals engaged in the medical use of radioactive materials. The College is a professional organization representing more than 1,200 physicians and scientists actively engaged in the practice of Nuclear Medicine. The combined membership of these two organizations constitute the Nuclear Medicine community of this country.

The application of radioisotopes in the diagnosis and treatment of disease is one of the great accomplishments of the nuclear age. In this era of increasing pressures for cost containment and cost effectiveness in health care, the economic benefits of continued research are even more striking.

Research in Nuclear Medicine undertaken by DOE in recent years is already showing results which more than justify these expenditures. Promising areas of future research are evident which will clearly repay further investments.

Positron emission tomography, which has been developed in large part by DOE laboratories, is providing a new tool to measure metabolic activity. This is already in clinical application in evaluation of cardiac and neuropsychiatric patients. We are learning for the first time how brain function differs from normal, for example, in patients with schizophrenia and Alzheimer's disease. This research must continue to be supported.

Another example is the development of monoclonal antibodies to deliver a radionuclide directly to tumors. This is a promising therapeutic use of Nuclear Medicine which has benefitted from past and present DOE programs.

Many research centers which utilize radioactive tracers depend on the supply of new and of sometimes costly radioisotopes available only from government facilities. For example, Oak Ridge is the sole domestic source of certain stable isotopes necessary for the production of radioisotopes required for heart and pediatric nuclear imaging. Production of these isotopes and their provision to academic researchers is a critical activity of DOE.
It is most important to have the best possible insight into the research most likely to yield advances which can be translated into clinical applications five years off. The Nuclear Medicine community stands ready to assist the DOE -- and, of course, this committee -- in assuring that these research programs continue to prove a wise investment of federal funds.

USES OF NUCLEAR MEDICINE

In a typical Nuclear Medicine procedure, the imaging study, a very small amount of a radioactive preparation is administered by injection. This tracer may be designed specifically to concentrate in one body organ, or to be metabolized or removed from the body by a particular route. Some radioactive drugs are designed to concentrate only in abnormal tissue such as cancer cells or compromised heart muscle. Sophisticated instrumentation records the transit and images the distribution of the radioactive preparation in the body. Data derived from the examination may also be processed by computer, producing improved images and quantitative information about organ function. Organ systems, even specific clusters of cells, routinely examined in this fashion include brain, lungs, liver, kidneys, bone, thyroid, pancreas, heart, and major blood vessels.

Diagnostic *in vitro* examinations encompass certain tests in which no radioactive material is administered to the patient. Instead, a sample of some body fluid, usually blood, is collected from the patient and reacted with a radioactive reagent in a test tube. These tests are used to determine the presence of hepatitis, pregnancy, and cancer antigens, to determine the precise concentration of various hormones, vitamins and drugs, and to identify pollutants or other toxic materials in the environment. Radioimmunoassay techniques permit early discovery of tumors and matastases before they become evident clinically.

Nuclear Medicine techniques are especially versatile for basic research in the chemical, biological, and physical sciences. Since techniques are similar, data in these areas are easily expanded into clinical research allowing rapid application of information from the research laboratory to clinical practice.

PRONTIERS OF RESEARCH RELATED TO DOE PROGRAMS

The following are a few of many such applications, demonstrating the importance of a continuing high level of research:

(A) Cardiac Nuclear Imaging

One of the most dramatic examples of the rapid transfer of research developments to the hospital is the noninvasive study of the human heart. Heart attacks kill approximately 700,000 people annually and are the leading cause of death in the United States. Almost 300,000 individuals suffer their first heart attack without prior knowledge of having significant coronary disease. Early identification of persons at risk had heretofore been particularly difficult. Nuclear diagnostic techniques developed and applied within the past four years are significantly more sensitive and less risky in identifying individuals with diseased coronary arteries (hence at risk) than are other diagnostic methods such as electrocardiographic stress testing, and much less expensive and hazardous than coronary arteriography. Positron emission tomography, developed in large part by DOE laboratories, is the only method of measuring the metabolic activity of heart muscle in a non-invasive manner.

(B) Cancer Patient Evaluation

The major emphasis of Nuclear Medicine in the field of cancer has moved from the therapeutic use of radioactive materials to the use of improved imaging modalities which permit earlier detection and better staging of cancers. In addition, there is growing use of Nuclear Medicine in monitoring the therapy of cancer and early discovery of recurrent or disseminated cancer. This information allows the clinician to continue or modify treatment accordingly. Among the most serious problems in cancer chemotherapy are the serious side effects that anticancer drugs produce. Such effects can often be more efficiently monitored through the use of Nuclear Medicine procedures. For example, certain cancer drugs can adversely affect the heart muscle. Nuclear Medicine methods provide a guide to therapy whereby this toxicity and the possibility of drug induced heart failure can be avoided.

Despite this progress, present technology cannot pinpoint very small growths and often cannot determine their nature. Therefore, these techniques need to be improved by development of more specific radioactive drugs, by exploration of more sophisticated immunologic and biochemical methodology, and by development of instruments with better spatial resolution (such as that offered by emission tomographic techniques). Research with radiolabeled monoclonal antibodies as well as development of compounds that accumulate specifically in receptors only contained in breast tumors are examples of a promising new approach that is being pursued.

(C) Patient Treatment

1. Treatment of Cancer

Improvements in cancer therapy have come about by the development of improved radiotherapy beams, better localization of the tumor, computer-aided treatment planning, and new chemotherapy agents and regimens. Further benefits derived from the use of charged heavy particles (protons, alpha particles, and mesons) arise from better dose distributions, and impressive advantages have been demonstrated in the treatment of benign and malignant growths in the brain. Reduced morbidity and mortality and decreased cost to the patient are achieved from these procedures. The facilities needed for these treatments are only present at DOE National Laboratories and major research centers. Additional support is needed to develop specialized low cost accelerators dedicated for medical purposes.

2. Heavy Ion Therapy

Heavy ions are being used at the Lawrence Berkeley Laboratory for the treatment of blood vessel malformation in the brain. Approximately 10,000 Americans per year are found to have this condition which is not readily treatable surgically. These patients benefit from this new mode of treatment which has been developed with DOE support in the last two years. This program also has proceeded to the treatment of other tumors, with major new successes in the treatment of tumors of the eye and spinal cord.

3. Labeled Monoclonal Antibodies

Labeled monoclonal antibodies offer the promise for the treatment of certain cancers using the specificity of the antibodies to the tumor as a way of localizing the dose. These studies in many instances are provided through collaboration between National Laboratories (Lawrence Berkeley Laboratory, Brookhaven, Los Alamos, Oak Ridge), and Universities (George Washington University, Washington University in St. Louis, University of California at Davis, University of Kentucky, and others).

(D) Instrumentation Development

Important new knowledge of brain function in health and disease has been obtained by the use of positron emission tomography (PET) imaging. PET systems have improved in performance significantly, but the ability to resolve small structures discretely is much less than what is possible and cost is still too high for all but a few research centers. Further improvements in instrumentation are needed to characterize small structures of importance. Developments in high energy physics instrumentation need to be adapted to medical applications to achieve optimal resolution and diminished cost. A five-fold decrease in cost seems realistically achievable with a two-to-three-fold improvement in resolution, given funding for instrumentation support for medical applications at the National Laboratories.

Since PET technology requires an on-site cyclotron and is expensive, the potential of single photon emission tomography (SPECT) is being widely explored. If perfected, this technology would be readily available widely without much additional expense, since the basic instruments are already present in most Nuclear Medicine departments. Research for instrument modification and SPECT radiopharmaceutical development is heavily dependent on DOE support.

(E) Pediatric Nuclear Medicine

Further examples of the improvement in health care from research and development in Nuclear Medicine techniques are in the area of pediatric medicine. A Nuclear Medicine bone scan is the most effective technique for the early differentiation of bone infection from soft-tissue infection, disorders that are clinically similar, but markedly different in treatment and outcome. A Nuclear Medicine liver excretion study is the only method short of exploratory surgery to differentiate blocked bile ducts from liver inflammation in jaundiced newborn infants, who tolerate surgery very poorly.

Short-lived isotopes available only from DOE facilities permit repeated determination of cardiac function with exercise or administration of drugs, particularly important in pediatrics because children change for better or worse much faster than adults, making speed in diagnosis critical. Isotopes with short half-lives deliver much lower radiation doses to patients.

(F) Aging and Atherosclerosis

Nuclear Medicine provides noninvasive methods of studying changes of brain metabolism during normal aging. Of significance are the initial results of DOE supported research on Alzheimer's disease.

A group of collaborating investigators supported in the main by the Department of Energy's high technology program on nuclear instrumentation and the National Institutes of Health have discovered an extremely vital piece of information with regard to Alzheimer's disease. A pattern of decreased glucose metabolism occurs in specific areas of the brain in patients with this disease. These patterns are distinctive, particularly when compared to the patterns seen in normal aged matched individuals as well as individuals with other forms of dementia. If these observations are confirmed, it may be possible, for the first time, to identify patients with Alzheimer's disease. Precise diagnosis of a disease must be possible before effective treatment can be developed.

Atherosclerosis research has benefitted in two major areas. It is now possible using Nuclear Medicine advances in positron emission tomography and single photon tomography to evaluate the efficacy of methods of treatment for stroke and heart attacks. These advances come from developments in instrumentation physics provided through the unique capabilities of the National Labs and from new radiopharmaceuticals. For example, at present, Brookhaven National Laboratory produces the purest form of the tracer Iodine-123 for use in synthesizing compounds to study stroke. The major, and for practical purposes, only source of Strontium-82 which is needed for production of Rubidium-82 used in imaging blood flow of the heart muscle is at Los Alamos National Laboratory. A super high resolution positron emission tomograph which will provide the capabilities for the time to evaluate metabolic activity in small regions of the brain and heart is being studied by the Department of Energy at Lawrence Berkeley Donner Laboratory.

(G) Mental Disorders

One of the major contributions made through collaborative work between National Labs and Universities, e.g., New York University, Cornell, and Brookhaven, is the investigation of the metabolic patterns of the brain in schizophrenia. This is still an area of great controversy; however, for the first time in centuries, there appears to be a quantitative tool whereby this disorder can be studied in a systematic fashion using noninvasive techniques. Work is also being carried out on studying various receptor systems such as the dopamine and morphine receptors which are involved in a variety of mental disorders.

CONSULTATION WITH DEPARTMENT OF ENERGY

As stated at the outset, we support a continuation of the DOE Nuclear Medicine Applications program for FY 1987 at this year's level of $23.3 million. This is minimal to maintain progress. Nuclear Medicine research is underfunded in relationship to the benefits produced in the past and which can clearly be expected in the future. Some important research facilities are not being maintained. Opportunities are being missed or their realization delayed.

We also want to assure the Committee that the Nuclear Medicine community will continue to work closely with the Department of Energy in the development of its research programs. Judgments on the areas of research most likely to lead to clinical applications five years out are difficult. We stand ready to help this Committee and the Department of Energy to identify important new directions in diagnostic imaging and therapy. The exchange of views and knowledge between DOE officials and the medical community helps to assure that the greatest possible benefit is derived from the funds committed.

STATEMENT OF THE GEORGIA INSTITUTE OF TECHNOLOGY

BIOFUELS ENERGY SYSTEMS

The Georgia Institute of Technology,an established leader in bioenergy and biomass conversion research, since well before the 1970 oil crises is intimately involved with virtually every aspect of modern biomass technology development (alcohol fuels, pyrolysis, gasification, anaerobic digestion, etc.) with private industry, university and government laboratories, and with the international community.

GIT views with great concern the continued erosion of federal funding for USDOE's Biofuels Energy Systems. It views the proposed FY'87 level of $12.2M, a reduction from a previous low in FY'86 of $27.3M, to be indefensible. It effectively represents a cessation of any serious attempt to meet future energy requirements from an abundant renewable resource, one which already contributes substantially to national energy demands.

GIT urges that the proposed budget be rejected and endorses a return to a funding level which, as a minimum, equates with FY'86 levels, a level which it considers to be already reflective of and responsive to the national economic constraints.

It is the firm belief of the Georgia Institute of Technology that the reduction of the USDOE biofuels energy systems budget to a proposed 12.2M for FY'87 will:

(1) decimate the already-depleted university research programs

(2) isolate "research" activities in one or two national laboratories.

(3) dismantle and disperse core teams of veteran biomass researchers and technologists

(4) eliminate the training and education of students in preparation for an emerging technology and industry

(5) drive committed U.S. researchers and industrial technology to seek foreign research and commercial development support

(6) surrender previously-funded market and technology leads to foreign competitors

(7) prevent the development of a viable U.S. biomass and bioenergy industry now or in the future

GIT urges not only an increase in research funds but also a redistribution in research fund allocations to redress the serious deficiency in support of university-based research, a general condition cited in the December 1985 report of the Solar Panel of the Energy Research Advisory Board (ERAB) to USDOE (Report DOE/S-0039).

As a specific example of the disproportionate cutbacks in university R & D support, from a FY'86 budget line item of $11,500,000 apparently for "thermochemical conversion" research, as of this month only a reported $2,400,000 will manage to trickle down for support of biomass thermochemical conversion research by universities and national laboratory researchers.

The ERAB Solar Panel states;

> "Reasonable diversity in laboratory participation in research, along with continuation or even increases in the base of university and industry research activities, must be maintained ---"

To meet that recommendation for biofuels energy research, funding will have to be maintained, university participation will have to be more directly managed from one central coordinating source, large money-gobbling demonstration projects will have to be deferred or conducted, as effectively shown, through Regional Biomass Programs and their cost-sharing approaches.

We concur with another recent Energy Research Advisory Board (DOE/S-0046, 12/85) that USDOE's civilian R & D programs, which include both basic sciences and energy technology, are long-term investments which must be protected and supported to provide the Nation with the ability to deal with an uncertain energy future. As the report states;

> "--- essentially all projections of future of energy markets, including those of DOE, indicate that by the year 2000 there will be substantial increases in petroleum imports and significant real escalation in prices".

"Goal-directed programs", which have consistently been able to achieve DOE-specified research evaluation criteria such as development of entrained pyrolysis oil production for petroleum substitution, "must be keep immune from short-term swings in oil supply and demand."

Finally, GIT in harmony with its mission to contribute to the economic development of the nation, and its demonstrated ability to nurture biomass research through commercialization by the private sector, endorses a policy of participation by industry in the transfer of government-supported technology to that sector. However, this same experience leads us to exhort the government to recognize that emerging industries, like emerging technologies, will require strong government funded support in the early stages.

SOLAR THERMAL ENERGY TECHNOLOGY

It is the firm belief of the Georgia Institute of Technology that a further erosion of the USDOE solar thermal budget from an average $30M for the last two years to a proposed $15.3M for FY'87 will:

(1) decimate the already-depleted university research programs

(2) isolate "research" activities in one center (SERI) and "engineering" development activities in only one other center (SANDIA, Albuquerque)

(3) dismantle and disperse core teams of veteran solar researchers and technologists

(4) eliminate the training and education of students in preparation for an emerging technology and industry

(5) drive committed U.S. researchers and industrial technology to seek foreign research and commercial development support

(6) surrender previously-funded market and technology leads to foreign competitors.

In 1971, long before the first mideast oil embargo, Georgia Tech researchers became the first U.S. scientific team to conduct experiments at the world's largest solar furnace. By 1977, the Advanced Components Test Facility was built on our campus and has been continually operated on behalf of the U.S. Department of Energy. We have been intimately involved at all stages of the development of solar thermal technology with private industry, university and government laboratories as well as with an international community. We have seen the development of solar thermal technology rapidly climb towards the system - level targets for the mid-to-late 1990's of $0.5/k Whe (electricity) and $9/MBtu (Heat). In addition to Solar Thermal Power Industry, a new cadre of companies, much more broadly based and drawn from aerospace (including space commercialization interests), advanced materials, and the specialty chemical industry, are beginning to be attracted by the prospects of solar-unique products and processes using solar thermal technology. To reduce research funding at this stage is to eliminate this new, emerging industrial interest.

Georgia Tech urges the continuation of funding at current levels of approximately $30M and adherence to a consistent multi-year research plan as outlined in the September, 1985 plan of the USDOE Solar Thermal Technology Division. We particularly endorse the following recommendation of the "Report of the Solar Panel of the Energy Research Advisory Board to the United States Department of Energy, December, 1985 (DOE/S-0039):

> "Reasonable diversity in laboratory participation in research, along with continuation or even increases in the base of university and industry research activities, must be maintained to provide adequate opportunity for collaboration, competition, creativity and technology transfer and yet assure an efficient and effective use of limited resources.

STATEMENT OF GOV. JAMES R. THOMPSON OF ILLINOIS

SUBMITTED BY GOVERNORS

JAMES R. THOMPSON (ILLINOIS)
RICHARD F. CELESTE (OHIO)
RICHARD P. LAMM (COLORADO)
RICHARD W. RILEY (SOUTH CAROLINA)
JAMES BLANCHARD (MICHIGAN)
RICHARD H. BRYAN (NEVADA)

Mr. Chairman and Members of the Committee: We thank you for the opportunity to present our views on a matter of vital importance to states and compact regions responsible for developing a low-level radioactive waste disposal facility.

Between now and January 1, 1993, the task of siting and developing several new low-level waste disposal facilities must be completed. But the technological and political issues facing states and compact regions are enormous. This is especially true where the type of facility previously used (shallow land burial) is prohibited or politically unacceptable. Thus, at the same time that studies are being performed to find suitable locations for new facilities, substantial work must also be done to evaluate alternative technological approaches for disposing of low-level radioactive waste.

The extent to which progress is made during the next few years will determine whether a new nationwide system of low-level waste management can be achieved. Technical and financial assistance from the U.S. Department of Energy (DOE) is critical to the success of this effort. DOE has already begun to facilitate states' efforts by issuing grants for studies related to national low-level waste issues, such as siting and disposal technology evaluation. In addition, the DOE low-level radioactive waste management program, operated by its primary contractor, EG&G Idaho, has a national computer network which includes economic models for evaluating site development and waste disposal costs, waste disposal data for individual states, and a low-level waste manifest tracking system. DOE is also helping sponsor a national coordinating committee for evaluating alternative disposal technologies, has sponsored public participation workshops, has assisted states in developing programs which will facilitate adequate siting schedules and has published numerous proceedings and information documents related to low-level waste management including the annual state-by-state assessment of low-level waste disposal, waste minimization procedures and case histories of local cooperation and incentives.

The financial and technical resources available for completing the tasks required by the Low-Level Radioactive Waste Policy Amendments Act of 1985 are limited, particularly during the critical two-year period just ahead, and they must be used efficiently. DOE can promote this efficiency through the types of activities described above. Sufficient time is not available for each state and region to engage in a "trial and error" approach to evaluating technologies and developing siting procedures. With DOE's assistance, individual states and regions can build on the knowledge of others, and they will not be required to perform these analyses independently.

Unfortunately, at a time when DOE's assistance is most critical, appropriations for the low-level waste program continue to be reduced. The funding level of $6.2 million for Fiscal Year 1985 was reduced to $4.65 million for Fiscal Year 1986. A further reduction (to $4.0 million) is proposed for Fiscal Year 1987. States such as Illinois and Texas, each of which has made significant progress toward developing a new facility, have already felt the impact of reductions in DOE's budget. In each case, the states have been told by DOE that grants previously approved for assisting in the development of new facilities will be available, but at reduced levels, and that no additional assistance to the states will be granted under the funding level proposed in the president's budget.

We strongly urge Congress to reject the proposal by the DOE to reduce the funding level for the low-level waste program. Continued reductions will make the assistance on which states had intended to rely unlikely, if not impossible. This is particularly true in light of recent provisions which were included in the Low-Level Waste Policy Amendments Act of 1985. These provisions place new responsibilities on the Department of Energy including:

1. Conducting a year-long study on "above class 'C' wastes" and "assuming responsibility for such wastes";

2. Managing the allocation of 800,000 cubic feet of disposal capacity provided to utilities for unusual operating eventualities;

3. Managing an escrow account, comprised of 25% of the surcharges that will be rebated to the states and compacts upon achieving specific milestones; and

4. Producing an annual report of the progress of states and regions in meeting the deadlines in the Act and on industry's procedures for handling low-level waste.

Each of these new responsibilities must be funded out of DOE's low-level waste budget which means that the limited resources available to states from DOE will be reduced even further.

While we recognize that the responsibility for implementing a low-level waste management and disposal system now rests with the states, such a system cannot be implemented without full cooperation and assistance from the Federal government. We are convinced that if the Federal government's level of conmmitment is reduced at this critical juncture, successful implementation of the system will be placed in serious jeopardy. The cost of failure will be high since if the States are not successful, responsibility for low-level waste may shift to the Federal government. I think you would agree that this outcome would be an unfortunate and costly result.

For these reasons, we urge the Congress to increase the amount available for the DOE's Low-level waste program in FY87.

STATEMENT OF WILLIAM KERR, DIRECTOR, OFFICE OF ENERGY RESEARCH, UNIVERSITY OF MICHIGAN, ON BEHALF OF THE NATIONAL ASSOCIATION OF STATE UNIVERSITIES AND LAND-GRANT COLLEGES, ASSOCIATION OF AMERICAN UNIVERSITIES, COUNCIL OF GRADUATE SCHOOLS, AMERICAN SOCIETY OF ENGINEERING EDUCATION, AND NATIONAL SOCIETY OF PROFESSIONAL ENGINEERS

Mr. Chairman, Distinguished Members of the Committee, I am Professor William Kerr, Director of the Office of Energy Research at the University of Michigan. I am grateful for this opportunity to appear before you.

The specific subject of my remarks this afternoon is the urgent need to revitalize nuclear engineering education in the United States. However, I must stress that nuclear engineering education may serve as an exemplum or metaphor for much of engineering education and especially energy related engineering education in our nation. It has been said that it is easier to attain excellence than maintain it. The United States, in the past half century, achieved a remarkable stature in science and technology. Much of the achievement is traceable to the extraordinary system and network of universities, colleges and institutes that trained our highly creative engineering force. Our concern here today is to urge attention to the nation's capacity for improving education lest neglect create serious problems for the nation's economy and national security. Mr. Chairman, for the record I am submitting a copy of a study completed just three months ago. It was carried out by the Commission on Education for the Engineering Professions of National Association of State Universities and Land-Grant Colleges, and is a study on the "Quality of Engineering Education."

Its findings summarize the central problems that concern us.

1. Shortfall in engineering faculty: graduate enrollment in the past four years, responding to market needs, has increased by 25%; faculty by only 7.2%.

2. Too few of the best BS engineering students go on to graduate study - perhaps due to graduate student stipends that are far too low. (As for research assistants, there is a perceived shortage of 81%; 47% of current RA's are foreign.)

3. The academic engineering environment has seriously deteriorated due to lack of space, obsolescence of equipment and lack of support staff. Frequently, as a result, faculty are not from the top rank of new Ph.D's.

4. Lack of space is most critical. Much current space lacks power and air conditioning for new technologies. And while equipment acquisition has increased significantly, maintenance budgets have not.

By way of background, I would like to cite a few paragraphs from a report on the subject, dated October 1985, by the Nuclear Engineering Department Heads Organization:

> The current state of nuclear power in the United States must be viewed as temporary. A growing economy, which is necessary to maintain the United States in a leadership position, requires increased use of electricity. Therefore, new power plants, be they powered by either fossil or nuclear fuel, must be constructed prior to the end of the century to meet this increasing demand, as well as to replace older plants, fossil and nuclear, that are no longer usable.
>
> Because of the potential costs of dealing with environmental consequences of burning fossil fuels - acid rain, strip mining, atmospheric carbon dioxide buildup - the role that coal will fill in satisfying United States energy needs is not clear. The more exotic alternatives, such as fusion and solar, are still decades away from providing substantial portions of energy requirements. Most large rivers have already been harnessed; hydropower cannot be expanded to any significant degree.

Although conservation is still a promising option, it has its price and its limits.

Because no one source of energy can be quickly and indefinitely expanded to supply a large percentage of United States energy requirements, it is necessary to maintain an appropriate mix of energy sources to guarantee the ability of the country to supply energy as needed. Nuclear power should be preserved in that mix of energy sources because, in spite of the problems faced by nuclear power, operating nuclear plants are supplying electricity at costs competitive to coal-fired plants and with less environmental impact.

However, if the nuclear power option is to remain open, a work force of nuclear energy professionals must be available. These professionals will be developing the innovative and state of the art technology that will facilitate the economic construction, and reliable, safe operation of nuclear power plants when they are once again ordered. In the meantime, they will be developing new ways to improve the operation and maintenance of existing power plants.

Universities are the only source of the highly trained people who will be required to fulfill these obligations. And yet nuclear engineering programs of the major research universities in this country are being sorely pressed to retain the high quality programs that are needed to supply the engineers and scientists required by government and by industry over the next several decades, if we are to live up to our obligations.

In the mid-1950's, the Atomic Energy Commission began and maintained for a number of years a graduate fellowship program. This program produced a large number of professionals who now provide leadership in the nuclear energy areas for which both government and industry are responsible. Although a very small program is now financed by the Department of Energy, it is far below what is needed to provide for future needs. Related areas of concern are:

- Research is an indispensable component of the educational process and an important source of innovative ideas and creative solutions for nuclear power development. During the last five years, research funds available to nuclear engineering programs at universities have been very small.

- University research reactors have not escaped the nuclear engineering funding flight. Federal funds for reactor operations, upgrade and research continue to be inadequate, threatening the viability of all research reactor facilities.

- An additional problem is obsolescence in engineering laboratory equipment for teaching and research. The shortage of equipment funds for nuclear engineering has created an especially difficult situation.

With the development of improved nuclear power systems and the growing recognition that nuclear power is a viable source of generating electricity, the United States will assuredly once again turn to nuclear power for some of its future energy needs. It is in the national interest that universities receive vigorous support of the Federal Government in the form of fellowships, research support and assistance for university reactors. Additional support in the amount of $6.25M would represent a significant commitment toward the current national nuclear education needs, specifically, to provide:

$1.25M to fund 50 graduate fellowships @ $25,000 each;
$2.5M to fund competitive research; and
$2.5M to fund support for research reactor operation and use

STATEMENT OF COMMITTEE ON THE QUALITY OF ENGINEERING EDUCATION, COMMISSION ON EDUCATION FOR THE ENGINEERING PROFESSIONS, AND NATIONAL ASSOCIATION OF STATE UNIVERSITIES AND LAND-GRANT COLLEGES

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EXECUTIVE SUMMARY

Over three years ago, the Commission on Education for the Engineering Professions of NASULGC issued a report on the Quality of Engineering Education, termed the Kemper Report. The report indicated that there was a crisis in engineering education at that time, caused by overenrollment in undergraduate programs, shortage of engineering faculty, obsolescence of equipment, and lack of space. A NASULGC committee was convened in 1984 to reassess the quality of engineering education and to examine the changes that have taken place in NASULGC engineering schools and colleges since the time of the Kemper Report. Data were obtained from a questionnaire sent to all NASULGC engineering schools, replies were received from 49 schools which enroll approximately two thirds of the total engineering students, both undergraduate and graduate, that are enrolled at NASULGC schools.

After a thorough examination of the data, the committee concluded that there is still a decline taking place in the quality of engineering education caused by overenrollment. Data from the NASULGC survey indicated that, whereas a slight decrease has taken place in undergraduate enrollment, this has been more than compensated for by a 25% increase in MS and PhD enrollments over the period 1980-81 to 1984-85. During the same period, engineering faculty increased by only 7.2%.

The quality of the undergraduate student remains excellent, however, there is an indication that the top BS engineering students are not continuing on to graduate school but are pursuing careers in industry. In order to change this trend, the committee feels that graduate student stipends must be increased to 50% of the starting salaries of BS engineers. Current stipends, with only a few exceptions, fall far short of this.

The academic environment available to engineering faculty is deteriorating due to lack of space, obsolescence of equipment, and lack of support staff. This has brought about a decrease in the desirability of an academic career for new PhD's in engineering so that new faculty do not always come from the top rank of PhD's. University administrations seem especially slow to react to faculty needs for support, such as secretarial and technician staffing and teaching and research assistants. Such support is particularly important in times of overenrollment.

Lack of space remains a most critical problem, little new construction has been completed in NASULGC engineering schools during the past five years. A great deal of current space is unsuitable due to lack of power and air-conditioning required for new technologies. A massive building program must be started, with total cost well over one billion dollars, to provide the necessary space for quality engineering education.

There have been significant increases in equipment acquisitions for NASULGC engineering schools since the time of the Kemper Report, due both to increases in state budgets and industrial donations. However, there has not been a concomitant increase in maintenance budgets. According to the survey, whereas equipment budgets have increased by 265% since 1980-81 and donations have increased by 288% since 1980-81, maintenance budgets have only increased by 75%. It is recommended that tax deductibility be provided for maintenance of donated equipment and that, in the future, state maintenance budgets be compatible with equipment budgets. The increases in equipment budgets are still far from adequate to meet needs; it is recommended that a Federal matching grant program be initiated to bring engineering laboratories, both teaching and research, up to an acceptable level.

INTRODUCTION

In November, 1982, the Commission on Education for the Engineering Professions of NASULGC issued a Report on the Quality of Engineering Education. This report alerted the reader to the "Crisis in Engineering Education" existent at that time. This crisis was caused by the following factors outlined in the report:

1. The increase in undergraduate enrollments since 1975 that has overloaded available resources in engineering schools.

2. The lag between faculty and industrial salaries.

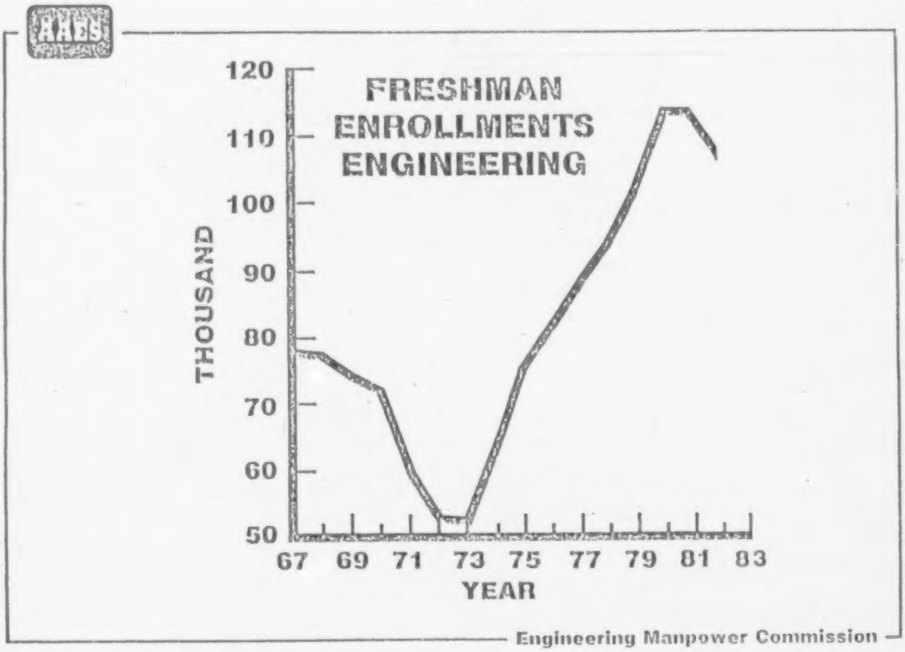
3. Decline in the number of doctoral degrees available for U.S. employment and a resultant shortage of faculty candidates.

4. Obsolescence of equipment available to engineering schools.

5. Lack of adequate space, especially under the current conditions of high enrollment.

It is important to now reassess the question of the quality of engineering education and to examine the changes that have taken place during the past few years. A committee was convened in 1984 to study this issue for NASULGC engineering schools and colleges. The committee chose to focus on key areas of enrollment trends, quality of students, quality of faculty, space, facilities and laboratories, and support. In order to assist the committee in its deliberations, an extended questionnaire was sent out to all NASULGC schools and colleges of engineering, a copy is provided in the Appendix. Replies were received from 49 engineering colleges, a number which is felt to be representative of NASULGC schools. These schools represent a good cross section including large universities with well over 5000 engineering students, smaller universities with less than 1000 engineering students, engineering colleges with a strong orientation towards research and graduate study as well as those with a prime emphasis on undergraduate education. Data from the questionnaire as well as perceptions of the committee members were used in the preparation of this report.

FIGURE 1.



Engineering Manpower Commission

ENROLLMENT TRENDS

During the period 1973 to 1983, total engineering undergraduate enrollments in the United States doubled, increasing from 200,000 to 400,000. However, an examination of the nationwide data as well as data from the current NASULGC study indicates that total enrollments peaked in the 1982-83 academic year and are now slightly decreasing. For example, data from the 49 schools replying to the questionnaire indicated an 8.3% increase in undergraduate engineering enrollments from 1980-81 to 1982-83, but a 0.24% decrease since then. Likewise, nationwide undergraduate engineering enrollments showed a 3.8% decrease from 1982-83 to 1983-84. More data are provided in Figure 1, indicating the drop in nationwide freshman engineering enrollments in the early 1980's.

Master's enrollments in engineering have increased nationally by 39.7% over the period 1980-81 to 1984-85; data from the NASULGC questionnaire showed an increase of over 24.5% over the same period. In both cases, the trend is towards increasing enrollments at the MS level. PhD enrollments have increased nationally by 43.4% over the period 1980-81 to 1984-85; data from the NASULGC questionnaire show an increase of 25.2% over the same period. PhD enrollments are also increasing at a steady rate.

The number of full-time engineering faculty in the NASULGC schools responding to the questionnaire increased by only 7.2% over the period 1980-81 to 1984-85. In other words, the undergraduate student to faculty ratio in NASULGC schools of engineering has changed very little from the time of the Kemper Report of 1982. The graduate student to faculty ratio has increased by 19% over the period 1982-83 to 1984-85, and the trend is towards further increases. In other words, the problem of overloads of the resource base in engineering education, mentioned as part of the Crisis in Engineering Education in the Kemper Report, has been amplified in the years since the appearance of this report. During this time period, many NASULGC schools have adopted plans to limit or manage undergraduate engineering enrollment; further, demographics indicate a decrease over the next few years in the numbers of students in the college age group. Both factors taken together have caused the decrease in freshman engineering enrollment noted above. This decrease has not been even larger due to several factors: budgets of NASULGC engineering colleges are, in many cases, tied to the numbers of engineering students so there is a strong desire not to drastically reduce student numbers; the job market for engineers remains relatively good, so there is a strong desire for students to pursue an engineering degree; state engineering schools provide engineering talent for the states' "high tech" and other industries which enrich the states' economy, there is therefore political pressure not to reduce engineering enrollments. It becomes apparent, then, that over the next few years, undergraduate engineering enrollments will decline to some extent, but the increase in graduate enrollments will compensate for this. In the following, we will look at the quality of engineering students entering and try to get some idea of the "value added" in the engineering schools, the quality of faculty and the intellectual environment in which they are immersed in the current situation of overcrowding, and the quality and quantity of space, facilities, laboratories and support which are all so vital for a quality engineering education.

QUALITY OF STUDENTS

One method of measuring the quality of engineering education is to examine and compare the quality of entering and graduating students, year by year. SAT scores of entering engineering freshmen from the schools responding to the survey averaged 1124 for 1984-85, up only slightly from 1114 in 1983-84 and 1110 in 1982-83. These values typically rank as the highest for the students of any school or college on campus. The average time to obtain an engineering degree from those schools on the semester system is currently 9.3 semesters; 14.1 quarters for those on the quarter system. These values have not changed appreciably over the past five years for the schools responding to the survey. Success rate from the EIT exam averaged 84%, about the same as that of five years ago. 87% of those responding reported the imposition of some type of enrollment management, established on relative standing, numerical ceilings or GPA criteria. Controlled entrance, or limitation on engineering enrollment, was felt necessary to combat the ever increasing enrollment and overcrowding of engineering schools.

The above methods used to quantify the quality of engineering students and engineering education are imperfect, at best. Qualitatively, a majority of university placement directors and corporate interviewers firmly believe that, in spite of the erosion caused by overenrollment and resource imbalance in engineering schools, engineering graduates today are better prepared than ever. It is true that engineering education, on the average, has adapted well to the use of new technology such as computer technology. In fact, the exposure to the computer that an engineering student receives in engineering schools exceeds the exposure he will receive at many companies when he starts his career. This fact alone is undoubtedly impressive to a recruiter. However, it is as yet too early to judge the ability of today's engineering student and graduate to be creative, to design imaginatively, to make assumptions and judgments relative to engineering situations. Traditionally, these latter abilities have been developed in small classes with groups of students working on "open-ended" or design projects with faculty acting as advisors or consultants. Such situations are faculty intensive and are therefore impossible under the current case of overenrollment. Further, whereas the use of computers in engineering curricula has greatly increased over the past five years, the experience of students in engineering laboratories has not kept pace. The number of experimental laboratories in engineering programs has decreased; the purchase of new equipment (other than computers) has not kept up with the growth in enrollments, and the updating of old equipment and instrumentation that has been in use for too long has not, in general, taken place. As a result, today's engineering students in many cases lack the type of hands-on experience that is an essential part of a quality engineering education.

A particularly difficult problem exists in Electrical and Computer Engineering Departments due to the current and projected popularity of this field, as shown in Table 2.

TABLE 1

	80-81	81-82	82-83	83-84	84-85
% Faculty in ECE	24.0	24.0	24.7	25.1	26.0
% Students in ECE	27.0	27.5	28.8	31.2	32.9

In other words student enrollments in ECE have increased by 21.9% during a time period in which faculty in ECE increased by only 8.3%. Many schools are making an effort to align resources with student enrollments, but there are difficulties in reallocating faculty positions and resources within a college of engineering and still maintaining the viability of the other engineering programs.

Responses to the survey indicated an increase in GRE scores, as shown in Table 2, and that 42% of the engineering graduate students are foreign, about the same value as that of five years ago. There thus appears to be an improvement in the quality of graduate students, yet further data from the study indicates that the average GPA of entering graduate students was only 3.26. In other words, many of the top undergraduate engineering students are foregoing graduate study, presumably because of the very attractive salary offers available to graduating seniors.

TABLE 2

	80-81	81-82	82-83	83-84	84-85
GRE Scores of New Graduate Students	1134	1159	1142	1166	1189

QUALITY OF FACULTY

Of key importance to the quality of engineering education is the quality of the faculty. In spite of the very high enrollments in engineering schools, faculty must still stay abreast of the rapidly changing technology, be aware of what is occurring in industry and impart this information to the students.

In the schools surveyed, 92% of the faculty have PhD's, the average full-time industrial experience is 3.1 years per faculty member, 47% had research grants within the past year, 63% were actively involved in consulting and 61% used the computer in instruction. On the average, only 5% of the lecture courses in NASULGC engineering schools were taught by graduate assistants, whereas within supporting departments such as math and physics over 17% of the lecture courses were taught by graduate assistants. In other words, in spite of the large class sizes, engineering schools continue to maintain their lead over other disciplines in stressing the importance of the professor in the classroom. The values quoted above are impressive and speak highly of the quality of engineering faculty. The turnover in engineering faculty is relatively small; of the schools surveyed, on the average, during the past two years, 3.3 faculty left for employment in industry, 3.5 left for employment in other universities. Salary levels for starting PhD's in engineering schools now appear to be competitive with industry, especially when summer compensation is fully taken into account. There is, however, a growing salary compression problem especially at the senior levels.

The major concern, however, is not with salaries but rather with the general environment for intellectual growth and development of faculty. Both students and faculty alike suffer from a major impact in this area. Engineering is a professional school with general education and professional education compressed into the shortest period of any profession. It is remarkable that buildings stand, bridges last, aircraft are the most reliable in the world, manufacturing competes, and technological development continues largely on the backs and intellect of BS engineers. However, the situation has worked well to date. Now we face a real and present danger of major proportions. The most outstanding PhD's are not being attracted to careers in Engineering Education. The reason is a complex matrix of issues including the responsibility for raising ever growing magnitudes of research funds in order to support the intellectual property development; the university environment that fails to respond to the needs of engineering faculty and demands that engineering overhead support other endeavors; the lack of recognition that engineering is a professional school and should be as highly regarded as law and medicine; the shortage of engineering equipment and appropriate space for labs and research.

Virtually all new engineering faculty members have PhD's, the PhD is essentially a research degree. In order to attract the most outstanding PhD's to academia, the proper environment for research must be available (as it would be in an industrial research lab which is competing for the PhD). It is impossible to pursue one's research with inadequate space, outmoded equipment, and lack of technical support. At the same time, a new faculty member must teach large classes, grade papers, and advise large numbers of students. The combination drives many top PhD's towards industry and away from the university.

The immediate corrections needed are increased numbers of faculty to handle the undergraduate load and increased support of this broad-based faculty professional to provide an attractive quality of academic life.

The erosion of the atmosphere for engineering academicians has occurred gradually over the past few years; it is affecting the quality of faculty and, consequently, the quality of engineering education. Needless to say, as retirements occur in the future, this problem will become even more serious.

SPACE, FACILITIES AND LABORATORIES

Appropriate space, facilities and laboratories are essential to a quality engineering education. In fact, shortages and limitations in these resources have been chief reasons for the decline in engineering education that has occurred over the past five to ten years.

From results of the survey, the average college of engineering utilized the following space:

TABLE 3

Current Space Utilization by the
Average College of Engineering

	Space (K Sq.Ft.)	Space per UG FTE (Sq. Ft.)	Space per Faculty FTE (Sq. Ft.)
Instructional Labs	60.2	31	601
Research Labs	87.9	36	703
Faculty Offices	33.7	14	290
Graduate Offices	15.3	5	120
Shops	12.0	6	129
Administration	14.4	6	124
Other	27.7	12	253
Total	251.2	110	2,220

One can raise the question: "How much construction would be required to raise those colleges currently below the level of 2,220 sq. ft. per faculty to that level". For the 49 reporting colleges, the required construction would be 1.9 million sq. ft. Assuming a nominal cost of $125 per sq. ft. that implies a cost of $238 million. Further, if that value is extrapolated to 250 colleges of engineering, the required capital would be approximately $1.2 billion. That is, about $1.2 billion would be required to bring all the nation's colleges of engineering to today's average space allocation -- and this itself is certainly below the desirable target when considering the enrollment increases of the past years, undergraduate and graduate.

The 49 responding colleges reported the following construction activity during the 1980's:

TABLE 4

New Construction and Renovation
(Totals for all responding colleges)

During 1980-84	
New	479 K Sq. Ft.
Renovation	666
Current Construction	
New	1,209
Renovation	347
In Planning	
New	2,215
Renovation	1,165

It is interesting that, in the years of very high enrollment 1980-84, only two schools out of 49 reported new completed construction of buildings greater than 100,000 sq. ft.; two more with buildings of size between 50,000 sq. ft. and 100,000 sq. ft. Lack of space looms as an extremely large problem, if not the largest roadblock in the path of quality engineering education.

Class section sizes also reflect the burgeoning enrollments which were encountered during the early 1980's. Most of the average section sizes shown below are simply not acceptable to engineering educators who must teach a technically oriented, design intensive discipline.

TABLE 5

Class Section Sizes for the
Average College of Engineering

	Lecture		Laboratory	
	Average	Maximum	Average	Maximum
Freshman	84	158	25	30
Sophomore	63	134	23	34
Junior	46	132	21	39
Senior	36	99	19	36
Graduate	13	36	9	17

The average number of students per laboratory station has risen only slightly from 4.14 in 1980-81 to 4.25 in 1984-85. Nevertheless, it must be noted that four students per station is not pedagogically acceptable. Many engineering faculty feel that laboratory experiments should be performed by no more than two students jointly. Over this same period the average number of required laboratories and the average number of elective laboratories have remained relatively constant. Tables 6 and

7 present equipment funding figures for the period of 1980-85. Table 6 shows the amounts available to the average college of engineering, and Table 7 shows the average amounts available per undergraduate FTE.

TABLE 6
Equipment Funding for the
Average College of Engineering
($K)

	80-81	81-82	82-83	83-84	84-85	Total Increase
Institutional Equip. Engr. Budget	293	406	389	560	1,070	265%
Maintenance Budget	127	140	176	193	221	75%
Donations	153	235	295	826	594	288%
Total Spent on Equipment	529	678	747	1,298	1,748	230%

TABLE 7

Equipment Funding per Undergraduate FTE
($ per FTE)

	80-81	81-82	82-83	83-84	84-85	Total Increase
Institutional Equip. Engr. Budget	159	181	195	208	449	182%
Maintenance Budget	80	80	90	100	130	63%
Donations	109	143	192	493	344	216%
Total Spent on Equipment	256	287	339	601	901	252%

These dramatically increasing figures reflect the significant effort that has been made to overcome the enormous equipment problem facing colleges of engineering. This problem has resulted from a combination of: periods of equipment under funding, dramatically increased enrollments, increasingly rapid obsolescence of equipment, and the necessity of keeping abreast of new computer technology.

Two particular factors should be noted, however. First, maintenance funds are not increasing in proportion to new equipment acquisitions. This implies that a major maintenance problem looms ahead. And, second, on a more positive note, it is encouraging that donations (primarily industrial) show the largest increase. This would seem to imply both that industry recognizes the dilemma that colleges of engineering are facing and that they are more supportive of our programs than governmental funding agencies and university administrations.

Unfortunately, donations of equipment seldom include provision for maintenance; maintenance costs for computer and other equipment often average 10 to 12% per year of the purchase price. There are many instances in which schools must reject gifts of badly needed equipment due to a lack of ability to handle maintenance costs of the gift.

SUPPORT

In this section, we will consider the quality of services provided by NASULGC universities in support of engineering education. Such support is necessary not only for directly aiding the faculty and students in the classroom and laboratory but also for providing the proper academic environment in which faculty can pursue research, and keep abreast of their field.

Graduate teaching assistants can be valuable resources to faculty in grading papers, holding tutorial sessions, and teaching and helping in laboratories. In current times of high enrollments, TA's became especially important to faculty. In the survey, a question was asked about the current number of TA's in engineering and the number needed to insure a high quality program. Responses indicated a deficiency of 34%. Further, the responses indicated that 41% of the TA's are not U.S. citizens, leading to potential problems of communication difficulties in the classroom and lab. The situation with graduate research assistants, most of whom are funded by external research contracts, is even more pronounced. Of the schools responding, there is a perceived deficiency of 81% in numbers of RA's and 47% of the current RA's are foreign.

From the survey, the average ratio of state-supported technicians to engineering faculty members is 1 to 8; the average ratio of total technicians (including those on soft money) to engineering faculty members is 1 to 6. Respondents felt that the ratio needed to ensure a high quality program is 1 to 3.5. This could be achieved by increasing the number of state-supported engineering technicians by 95%. It is interesting that this situation is reversed in European schools For example, in the United Kingdom, the ratio of engineering technicians to faculty is 1 to 1; this ratio was as high as 2 to 1 before the budget cutbacks that have occurred over the past few years.

There is a similar situation in secretaries. Results of the survey indicated a ratio of faculty to state-supported secretaries of 4.5, and faculty to total number of secretaries of 3.4 The desired ratio was 2.7 (faculty to total number of secretaries).

As far as computer accessibility is concerned, the average percentage of faculty with PC or terminal in his or her office was 62%. The average number of general purpose computer terminals per student is .08 (exclusive of those schools requiring the purchase of PC's) and these terminals are available, on the average, 102 hours per week. In the survey, only three engineering schools require students to purchase personal computers. Of all the schools surveyed, 60% require the students to take a course in a lab equipped with PC's. Computer maintenance costs are typically borne by some combination of state operating budgets, research funds and student fees. In fact, about 30% of the respondents indicated the imposition of a supplemental fee for engineering students to help bear the high costs of an engineering education.

CONCLUSIONS

1. The conclusions of the Kemper Report of 1982 are still very much valid today. There is still a decline taking place in the quality of engineering education caused by overenrollment in engineering schools. Whereas undergraduate enrollments seem to have peaked and are on a slight decline, this is more than compensated for by an increase in graduate enrollments in engineering.

2. The quality of the undergraduate engineering student remains excellent, and will continue to improve as enrollment limitation plans put into effect by many engineering schools take effect. However, there is an indication that the very top BS degree students are not continuing to graduate school, but are pursuing careers in industry, attracted by high salaries. It will be necessary to offer much higher stipends for graduate fellowships and assistantships to ensure that the very best students graduating from U.S. engineering schools continue on to graduate school. Such stipends should amount to 50% of the starting salaries of BS engineers, amounting to $13,000 to $15,000 per student with all tuition and fees paid. Such stipends should be the rule, and not just that provided for a few exceptional students.

3. Engineering faculty have done an outstanding job of handling large enrollments, introducing new computer technology into the curriculum, and maintaining a strong thrust towards research. However, the academic environment available to the faculty member is eroding due to lack of space, obsolescence of equipment, and lack of support staff. An academic career is losing its desirability so that the new engineering faculty do not always come from the top ranks of PhD's.

4. Lack of space for engineering schools is a very critical problem, relatively little new construction has been completed during the past five years in spite of very high enrollments. Even some of the current space is unsuitable due to lack of power and air conditioning for new technology that has been introduced over the past few years. A massive building program needs to be initiated, with total cost well over one billion dollars, in order to provide the necessary space for quality engineering education.

5. The equipment problem facing engineering schools was clearly enumerated in the Kemper Report. Since that time, there have been significant increases in equipment funding, especially over the past year, both due to increases from state budgets and increases in donations of equipment. However, maintenance budgets have not kept up with these increases. It is recommended that tax deductibility be provided for maintenance of donated equipment, to encourage industry to provide maintenance along with the gift. Further, it is recommended that university administrations provide maintenance budgets that will be compatible with equipment budgets, so that provisions for maintenance are included at the time of purchase. The increases in equipment budgets are welcome, but still far from adequate to satisfy "catch-up" needs as well as continuing needs. It becomes apparent that state budgets taken together with industrial donations will not be adequate for "catch-up" and that a federal matching grant program will be necessary to bring the engineering laboratories, both teaching and research, up to an acceptable level.

6. An area often overlooked is the support needed for engineering programs, including technicians, secretaries, and teaching and research assistants. Overenrollments have placed increased demands on support services, yet university administrations seem slow to react to these needs.

Appendix I

RESPONSES RECEIVED FROM THE FOLLOWING INSTITUTIONS:

University of Alaska
University of Arizona
University of Arkansas
University of California, Davis
University of California, Los Angeles
University of Cincinnati
Clemson University
Colorado State University
University of Delaware
University of Florida, Gainesville
University of Hawaii
University of Idaho
University of Illinois, Urbana
Iowa State University
University of Iowa
Kansas State University
Louisiana State University
University of Louisville
University of Massachusetts, Amherst
University of Maine, Orono
University of Minnesota
University of Mississippi
Mississippi State University
University of Missouri, Columbia
University of Missouri, Rolla
University of Nebraska
University of Nevada, Reno
University of New Hampshire
New Mexico State University
University of New York, Stony Brook
University of Wisconsin, Madison
University of Wisconsin, Milwaukee
North Carolina State University, Raleigh
North Dakota State University
Ohio State University
Oklahoma State University
Oklahoma University
Oregon State University
Pennsylvania State University
Purdue University
University of South Carolina
Virginia Polytechnic Institute
Washington State University
University of Washington, Seattle
West Virginia University
University of Texas, Austin
Texas A&M University
Texas Tech. University
Utah State University

APPENDIX II

University____

Respondent ____

Address ____

Part I. Enrollment Data*

a. Total number of undergraduate engineering students (FTE) for each of the past 5 years:

1984-85 ______
1983-84 ______
1982-83 ______
1981-82 ______
1980-81 ______

b. Total number of MS students (FTE) for each of the past 5 years:

1984-85 ______
1983-84 ______
1982-83 ______
1981-82 ______
1980-81 ______

c. Total number of PhD students (FTE) for each of the past 5 years:

1984-85 ______
1983-84 ______
1982-83 ______
1981-82 ______
1980-81 ______

d. Total number of faculty (FTE) by year:

1984-85 ______
1983-84 ______
1982-83 ______
1981-82 ______
1980-81 ______

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*In your replies, please use the following definitions:

A full-time equivalent student (FTE) is determined by the number of student credit hours offered per semester (or quarter) to all students taught by the faculty of the college of engineering and divided by fifteen for undergraduate students, by twelve for master's level students, and by nine for doctoral level students.

A full-time equivalent faculty member (FTE) is determined by the sum of all the positions and partial positions of professors (in any rank), instructors, and lecturers in the college of engineering that are charged to the instructional function. The fraction of faculty effort totally or partially charged to research, or public service, and graduate assistants are not included in this count.

Part II. Quality of Students

a. Incoming Freshmen

	1984	1983	1982	1981	1980
ACT scores	____	____	____	____	____
SAT scores	____	____	____	____	____
High School ranking (average percentile)	____	____	____	____	____

Comments:

b. Graduating Seniors

Year of graduation	1984	1983	1982	1981	1980
Avg. quarters/semesters for graduation	____	____	____	____	____
EIT Exam (% passing)	____	____	____	____	____
Avg. GPA	____	____	____	____	____

Comments:

c. New Graduate Students

	1984	1983	1982	1981	1980
Avg. GPA as undergraduates	____	____	____	____	____
Avg. GRE	____	____	____	____	____
% Foreign	____	____	____	____	____

d. Please indicate any plans currently in place to limit future undergraduate enrollment. Give the nature of this plan.

e. What percentage of your faculty FTE are in Electrical and Computer Engineering?

1984-85 ______
1983-84 ______
1982-83 ______
1981-82 ______
1980-81 ______

1986-87 ______ (Projected from current values)

Part II. Quality of Students (Continued)

f. What percent of the total of your Junior and Senior FTE students are in Electrical and Computer Engineering?

1984-85 ______
1983-84 ______
1982-83 ______
1981-82 ______
1980-81 ______

1986-87 ______ (Projected from current enrollment)

Part III. Quality of Faculty (Base your responses on data for academic year 1984-85)

a. Percentage of current faculty (Assistant Professors or above) with PhD or equivalent: ______

b. Average number of faculty publications in refereed journals per year over the past five years: ______

c. Average age of current faculty, Assistant, Associate and Full Professors: ______

d. Percentage of lecture courses taught by graduate assistants:

(1) in engineering departments ______

(2) in supporting departments (math, physics, computer science, etc.) ______

e. Full time, post PhD industrial experience of faculty (person-years/person): ______

f. Percentage of faculty members holding elected honorary membership grade in professional societies:

(Fellow of ASME, IEEE, etc.) ______

Number of faculty elected to NAE, NAS ______

g. Number of faculty who have published nationally-marketed textbooks: ______

h. Average 9-month faculty salaries:

Graduate teaching assistants and/or graduate teaching associates ________
Assistant professors ________
Associate professors ________
Professors ________

i. Number of faculty who have voluntarily resigned during the past two years:

For employment in industry ____
For employment at other colleges and universities ____
For early retirement ____

j. Percentage of faculty with research grants in contract within the past year: ______

k. Percentage of faculty taking advantage of the sabbatical leave opportunity on a regular basis: ______

l. Percentage of faculty actively utilizing computer resources
in instruction ______
in research ______

m. Percentage of faculty actively involved in consulting: ______

Part IV. Space, Facilities, Labs

a. Space:
Instructional Labs ____________ ft^2
Research Labs ____________ ft^2
Faculty Offices ____________ ft^2
Graduate student offices ____________ ft^2
Shops ____________ ft^2
Administration ____________ ft^2
Other ____________ ft^2

Total ____________ ft^2

b. New Buildings
Completed during 1980-84:
New ____________ ft^2
Renovated ____________ ft^2
Currently under construction:
New ____________ ft^2
Renovated ____________ ft^2
In planning:
New ____________ ft^2
Renovated ____________ ft^2

c. What are the average and maximum engineering class (or section) sizes in the following categories, using 1983-84 data:

	Lecture		Lab	
	Avg.	Max.	Avg.	Max.
Freshman				
Sophomore				
Junior				
Senior				
Graduate				

d. What is the average number of students per station in your engineering labs for 1984-85? ______________
What was it 5 years ago? ______________

e. How many undergraduate engineering lab courses are offered today as compared with 5 years ago? (include labs which are integral parts of lecture courses):

	1980-81	1984-85
No. of UG required lab courses		
No. of UG elective lab courses		

f. Has your college introduced any new approaches to streamline labs during the past 5 years, (e.g. new technology, use of canned data, et cetera)? Discuss.

Part IV. Space, Facilities, Labs (Continued)

g. Equipment budgets:

	1984-85	1983-84	1982-83	1981-82	1980-81
Institutional equipment budget for engineering	______	______	______	______	______
Maintenance budget	______	______	______	______	______
Donations (include cash value if equipment)	______	______	______	______	______
Total spent on equipment*	______	______	______	______	______

h. Do you impose a head tax, differential fee, or other special charge on engineering students?

Yes ____

No ____

If yes, how much? ______

What type and what are the funds used for? ______________________

i. Are student required to take a course in a laboratory equipped with personal computers? ________

j. Are your engineering students requiredc to purchase their own personal computers? _____ If yes, are the PC's networked to a larger machine? _____ If no, what % of your engineering students do you estimate have purchased their own PC? ______

k. What kind of student access is provided to large computers: Unlimited _____, Internally budgeted _____, External funds required _____.

Part V. Support (Base your responses on data for academic year 1984-85)

1. Give the number of graduate teaching assistants/associates (FTE). (A graduate teaching associate is normally employed 20 hours/week) ________
   What number is needed to ensure a high quality program? ______

2. What percentage of your current graduate teaching assistants/associates are not U.S.citizens? ______

3. What percentage of your current graduate teaching assistants/associates are supported on soft money? ______

4. Give the number of graduate research assistants (FTE) (A GRA normally works 20 hours/week) ______
   What number is needed to ensure a high quality program? ______

5. What percentage of your current graduate research assistants are not U.S. citizens? ______

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*Include, for example, equipment bought on money from research overhead return.

6. What percentage of your graduate research assistants are funded by externally supported research? ______

7. What is the ratio of state supported FTE technicians to FTE faculty? ________

   What is the ratio of total FTE technicians (include soft money positions) to FTE faculty? ________

8. What would be the desired ratio to ensure a high quality program? ______

9. What is the ratio of state supported secretaries FTE to faculty FTE? ________

   What is the ratio of total FTE secretaries (include soft money positions) to FTE faculty? ________

10. What would be the desired ratio in order to ensure a high quality program? ________

11. What is the ratio of general purpose computer terminals per student FTE? ________

    How many hours per week are these terminals accessible to the students? ________

12. How are your maintenance costs for computer equipment funded?

13. What is the level of research "seed" support provided by the institution per faculty FTE?

14. What is the level of operating expenses provided by the institution per faculty FTE? ________________
    Travel expenses ________________.

15. What % of your faculty have either a PC or general purpose computer terminal in his/her office? ________

STATEMENT OF WILLIAM KERR, DIRECTOR, OFFICE OF ENERGY RESEARCH, UNIVERSITY OF MICHIGAN, ON BEHALF OF THE NATIONAL ASSOCIATION OF STATE UNIVERSITIES AND LAND-GRANT COLLEGES

MR. CHAIRMAN, DISTINGUISHED MEMBERS OF THE COMMITTEE. I AM PROFESSOR WILLIAM KERR, DIRECTOR OF THE OFFICE OF ENERGY RESEARCH AT THE UNIVERSITY OF MICHIGAN.

I APPRECIATE THIS OPPORTUNITY TO RECOMMEND SUPPORT OF NUCLEAR ENGINEERING EDUCATION AND RESEARCH IN THE UNITED STATES, IN BEHALF OF THE FOLLOWING ORGANIZATION:

THE NATIONAL ASSOCIATION OF STATE UNIVERSITIES AND LAND-GRANT COLLEGES

LET ME COMMENT AT THE OUTSET THAT THOSE OF US MAKING THIS REQUEST ARE AWARE OF THE BUDGET STRINGENCIES THAT FACE ALL PROGRAMS WHICH DEPEND ON FEDERAL SUPPORT. IT IS OUR VIEW, HOWEVER, THAT NUCLEAR ENERGY AND THE NEED FOR THE HIGHLY TRAINED PROFESSIONALS WHO WILL DEVELOP AND CONTROL ITS APPLICATION ARE UNIQUE.

BECAUSE OF THE ROLE THAT NUCLEAR ENERGY HAS IN BOTH THE CIVILIAN AND THE MILITARY SECTORS, AND BECAUSE OF THE UNPRECEDENTED FEDERAL RESPONSIBILITY FOR ITS DEVELOPMENT AND CONTROL, WE BELIEVE THAT THE FEDERAL GOVERNMENT HAS A SPECIAL RESPONSIBILITY TO ENSURE THAT A CONTINUING POOL OF TRAINED PEOPLE IS AVAILABLE TO MAKE CERTAIN THAT THIS PARTICULAR SOURCE OF ENERGY IS MANAGED SAFELY AND EFFECTIVELY.

IN THE CIVILIAN SECTOR THERE IS A HIATUS IN NEW PLANT ORDERS IN THIS COUNTRY (ALTHOUGH PRESENTLY ALMOST 100 PLANTS ARE IN OPERATION AND ABOUT 30 PLANTS ARE STILL IN VARIOUS STAGES OF CONSTRUCTION).

HOWEVER, IN FRANCE (WHICH CURRENTLY GENERATES MORE THAN 70 PERCENT OF ITS ELECTRICITY FROM NUCLEAR POWER), IN JAPAN, IN THE FEDERAL REPUBLIC OF GERMANY, AND IN THE USSR THERE ARE WELL PLANNED, LONG RANGE PROGRAMS FOR FURTHER DEVELOPMENT OF NUCLEAR ENERGY AS A SOURCE OF ELECTRIC POWER GENERATION. MANY SMALL COUNTRIES, SOUTH KOREA AND TAIWAN ARE EXAMPLES, ARE ALSO MOVING TO GENERATE SIGNIFICANT FRACTIONS OF THEIR ELECTRICITY WITH NUCLEAR PLANTS.

PRUDENT MANAGEMENT OF OUR NATURAL RESOURCES DICTATES THAT WE BE IN A POSITION TO CONTINUE THE DEVELOPMENT OF URANIUM AS A SOURCE OF FUEL. WESTERN NATIONS, AND THE THIRD WORLD AS WELL, WILL REQUIRE INCREASING RESOURCES OF ENERGY AS POPULATIONS GROW AND AS APPETITES FOR INDUSTRIAL DEVELOPMENT ARE WHETTED. ALL OF US RECOGNIZE THAT THE SUPPLY OF FOSSIL FUELS IS LIMITED.

FURTHERMORE, THE WORLDWIDE CONCERN WITH INDUSTRIAL POLLUTION MAKES IT IMPERATIVE THAT ENERGY SOURCES SUCH AS URANIUM, THE USE OF WHICH HAS A BENIGN EFFECT ON THE ENVIRONMENT, BE DEVELOPED WHERE PRACTICABLE.

ON THE INTERNATIONAL FRONT, IF WE ARE TO HAVE ANY SIGNIFICANT INFLUENCE IN CONTROLLING THE EVER PRESENT THREAT OF WEAPONS PROLIFERATION, WE MUST MAINTAIN A HIGH LEVEL OF CAPABILITY IN NUCLEAR TECHNOLOGY, INCLUDING NUCLEAR POWER DEVELOPMENT (BOTH FISSION FOR THE PRESENT AND FUSION FOR THE FUTURE), AND CONTINUE TO SHARE WITH OTHER COUNTRIES IN A WAY WHICH WILL DISCOURAGE FURTHER WEAPONS DEVELOPMENT.

UNIVERSITIES ARE THE ONLY SOURCE OF THE HIGHLY TRAINED PEOPLE WHO WILL BE REQUIRED TO FULFILL THESE RESPONSIBILITIES. HOWEVER, THE NUCLEAR ENGINEERING PROGRAMS OF THIS COUNTRY ARE BEING HARD-PRESSED TO MAINTAIN THE RESEARCH AND DEVELOPMENT ACTIVITIES THAT ARE REQUIRED FOR THE TRAINING OF NUCLEAR ENGINEERS AND SCIENTISTS.

RESEARCH IS AN INDISPENSIBLE PART OF THE EDUCATION THAT WILL PRODUCE THE PEOPLE THAT THE NATIONAL INTEREST DEMANDS. THIS REQUIRES FELLOWSHIPS, ESPECIALLY FOR THOSE WHO ARE BEGINNING GRADUATE WORK, SUPPORT OF RESEARCH, AND SUPPORT OF THE RESEARCH REACTORS THAT ARE AN INTEGRAL PART OF MUCH OF NUCLEAR ENGINEERING RESEARCH. PARTLY BECAUSE MANY OF THE ORGANIZATIONS THAT TRADITIONALLY PROVIDE SUPPORT FOR GRADUATE EDUCATION AND RESEARCH REGARD NUCLEAR ENGINEERING AS A SPECIAL RESPONSIBILITY OF THE DEPARTMENT OF ENERGY, NUCLEAR ENGINEERING DEPARTMENTS FIND IT INCREASINGLY DIFFICULT TO SECURE ESSENTIAL FUNDING. WE SUGGEST A LEVEL OF ANNUAL SUPPORT OF $6.25 MILLION TO COME FROM THE EXISTING DEPARTMENT OF ENERGY RESEARCH BUDGET AND TO BE MADE AVAILABLE, ON A COMPETITIVE BASIS, TO NUCLEAR ENGINEERING PROGRAMS. THIS AMOUNT OF SUPPORT CAN MAKE A SIGNIFICANT POSITIVE CONTRIBUTION.

WE ASK THAT YOU GIVE SERIOUS CONSIDERATION TO THIS URGENT NATIONAL NEED.

SUBCOMMITTEE RECESS

Senator COCHRAN. With that, the hearing is recessed, to reconvene at 10 o'clock tomorrow morning.

[Whereupon, at 5:38 p.m. Tuesday, April 15, the subcommittee was recessed to reconvene at 10 a.m. Wednesday, April 16.]

2238

ENERGY AND WATER DEVELOPMENT APPROPRIATIONS FOR FISCAL YEAR 1987

WEDNESDAY, APRIL 16, 1986

U.S. SENATE,
SUBCOMMITTEE OF THE COMMITTEE ON APPROPRIATIONS,
Washington, DC.

The subcommittee met at 10 a.m. in room SD–192, Dirksen Senate Office Building, Hon. Mark O. Hatfield (chairman) presiding.

Present: Senators Hatfield, Burdick, and Mattingly.

NONDEPARTMENTAL WITNESSES

SUBCOMMITTEE PROCEDURES

Chairman HATFIELD. The subcommittee will come to order.

We have a large number of witnesses today who wish to be heard and, therefore, in accordance with our notification that we have provided to each witness, it will take some self-restraint on the part of everyone to hold oral testimony to a minimum in order that all of you who have requested an opportunity to testify may be heard.

I ask that the detailed prepared statements that each of you has worked out very carefully be submitted for the record where they will be carefully reviewed. That is the record that the subcommittee will study in determining the judgement and the decisions that will ultimately be effective for the coming year. And this way we will have a carefully detailed record so that anyone who is not present will be able to arrive at an independent judgement. Then if each witness will summarize or highlight the written testimony, it will be most helpful.

I would invite at this time the Rogue Basin project witnesses, Mr. Bauer and Mr. McGill.

I am very happy to welcome my fellow Oregonians here this morning in these hearings particularly, and witnesses from every part of the country. But it is especially nice to see the home folk here today.

Senator MATTINGLY. Mr. Chairman, I might welcome also your Oregonians. Is that the way you refer to them?

Chairman HATFIELD. Oregonians, that is right, Senator Mattingly.

Senator MATTINGLY. Very similar to Georgians. But I wish I could stay and listen to all your testimony. I have another conflict in a committee and I would just say to the Oregon witnesses that you are very well represented by Senator Hatfield, as you all well know, and I just hope that I am as successful in my endeavors for my State as the Senator Hatfield has been for his State, but I have learned much from him, I can assure you of that. [Laughter.]

Thank you.

Chairman HATFIELD. Well, I am very grateful for the comments of my very dear friend from Georgia, and I only want to say, Senator, that I wish you well this year because the fundamental thing is to get reelected. And then you build what they call seniority, you know, and you will find that the longer you are around here the more tolerable the system becomes. And I want to say that Senator Mattingly is a valued member of the committee. Thank you.

Senator MATTINGLY. Thank you, Mr. Chairman.

Chairman HATFIELD. Gentlemen, you may proceed.

ELK CREEK LAKE, OR

STATEMENT OF THOMAS W. McGILL, DIRECTOR, ROGUE BASIN ASSOCIATION

Mr. McGILL. Thank you. Today, we appear before you in a mood of celebration. We celebrate the completion of three of our components of the project. Fish runs are breaking records. Water quality is unsurpassed. Flooding is in check. And hydropower is generating seven times the revenue anticipated. The two dams and one fish hatchery now completed are a roaring success.

We celebrate the construction phase of Elk Creek Dam, the fourth and final project component.

We come today as representatives of the citizens of Oregon's Rogue Valley to thank you and the other members of Congress, past and present, for making our multipurpose Rogue basin project a reality. You have helped create a water storage system that preserves the beauty and vitality of a designated wild and scenic river, provides drinking water, irrigation, flood control, hydropower, and incredible recreational opportunities for hundreds of thousands of people who live in the area and the millions more who visit it. We thank you today and so will generations to come.

Specific Corps capability will, as always, be described in their testimony. We ask only that the project remain in the funding system so that the goal of a fully operational Elk Creek Dam will be attained by June 1988.

For your interest we have attached reprints of news articles which detail some of the history of Rogue basin flooding and our association.

Thank you for your usual courteous attention and again for your support over the 30 years of the Rogue basin project.

We shall be happy to respond to questions or to supply additional material as requested.

Chairman HATFIELD. Thank you very much.

[The statement follows:]

STATEMENT OF THE ROGUE BASIN FLOOD CONTROL AND WATER RESOURCES ASSOCIATION

Today, we appear before you in a mood of celebration. We celebrate the selection of Grants Pass, one of the Rogue Basin communities, as an All-American city. The Rogue Basin Project is one of this city's major assets.

We celebrate the 30th anniversary of our Rogue Basin Association, and the 25th year that citizens of our valley have sent a delegation to Congress in support of the Rogue Basin Project. Eighty-five directors have served our association; 35 of them are no longer alive. A second generation is completing the work started by their parents.

We celebrate the completion of four components of the project. Fish runs are breaking records, water quality is unsurpassed, flooding is in check, and hydropower is generating seven times the revenue anticipated. The two dams and one fish hatchery now completed are a roaring success.

Finally, we celebrate the construction phase of Elk Creek Dam, the fourth and final project component.

We come today as representatives of the citizens of Oregon's Rogue Valley to thank you and the other members of the Congress, past and present, for making our multipurpose Rogue Basin Project a reality. You have helped create a water storage system that preserves the beauty and vitality of a designated wild and scenic river, provides drinking water, irrigation, flood control, hydropower, and incredible recreational oportunities for hundreds of thousands of people who live in the area, and the millions more who visit it. We thank you today; so will generations to come.

Here are some specifics about the project's construction status. All activities are currently confined to the Elk Creek component. They are as follows: A bypass road, constructed in two phases, is 70 percent complete in the first phase; 40 percent in the second. Completion of both is expected by October 1 of this year. The dam itself is now 6 percent complete.

—The site of the dam's foundation is being excavated.

—Temporary construction offices, laboratories, and storage facilities are under construction.

—110 people have been put to work.

—The contractor is moving even more quickly than we had hoped.

Specific Corps capability will, as always, be described in their testimony. We ask only that the project remain in the funding cycle so that the goal of a fully operational Elk Creek Dam will be attained by June 1988.

For your interest, we have attached reprints of news articles which detail some of the history of Rogue Basin flooding and our association.

Thank you for your usual courteous attention and, again, for your support over the 30 years of the Rogue Basin Project. We shall be happy to respond to question or to supply additional material as requested.

[From The Medford Mail Tribune, Medford/Jackson County, OR, March 23, 1986]

THE ROGUE BASIN'S DAM MAKERS

By Allen Hallmark, Mail Tribune Staff Writer

It would be difficult to imagine a more determined or tenacious group of people than the members of the Rogue Basin Flood Control and Water Resources Association.

Celebrating their 30th anniversary this year, association members can claim to have done more to change the character of the once untamed Rogue River than any other single organization.

A generation after its founding at a public meeting in Grants Pass in February 1956, the association is finally on the verge of completing the goal that it set out to accomplish so many years ago—the construction of a system of dams to control flooding in the Rogue River Basin.

Working closely with the Army Corps of Engineers, the association sent delegations to Congress year after year, first to get the project authorized and then to get the money to built it.

Battling budgets and environmentalists, the association fought stubbornly for construction of three large dams: Lost Creek, Applegate, and Elk Creek, known collectively as the Rogue Basin Project.

Determined that the dams would enhance the Rogue River's famous salmon and steelhead fishery as well as provide for a host of other water resource benefits, the association insisted that the Cole M. Rivers Fish Hatchery be built before any of the dams. Named for a fishery biologist who worked closely with the association, the hatchery was completed in 1972 at a cost of $10 million.

During the association's 20th year in 1976, Lost Creek Dam, the first large dam on the mainstem of the Rogue, was completed, and when the dam was closed the next year, the river was forever changed.

In the same year, voters in Jackson and Josephine counties overwhelmingly approved an advisory vote on the Applegate Dam that paved the way for its construction, completed in 1980.

But for years, it seemed likely that the third and final dam in the sytem, Elk Creek, would not be built because of the outcry of opponents ranging from the timber industry to environmentalists.

Even supporters of Lost Creek and Applegate dams questioned the necessity of Elk Creek. But the association refused to back down. They insisted that the project had been designed as a system and that it should be completed as a system.

And this month, their persistence paid off when construction began on the $121 million dam.

That price tag is greater than the entire three-dam system was expected to cost when Congress first authorized the project in 1962.

Not everyone is thrilled about the Rogue Basin Association's success. Long-time RBA foe and former Jackson County commissioner Isabel Sickels bristled and growled one long "grrrrr" when asked to comment about the association's 30th anniversary.

"Bully for them," Sickles said with grudging admiration. "Persistence will out. They achieved their success through politics rather than through merit . . . I'm an environmentalist, and I feel strongly that the anadromous fishery has been decimated across the earth by dams, and I hate to see it happen here."

But when Senator Mark Hatfield, R-Ore., talks about the association, it's almost hard to believe that he's referring to mere mortals.

"I am convinced that future generations will call them blessed," Hatfield said in a telephone interview.

"Without their vision and foresight, there never would have been one dam, much less two, with one more in the making. We should all feel indebted to them. In fact, they shold put all of their names up there on those dams."

Of the 72 people who have served on the RBA's board of directors over the years, 35 have passed away. Only one member of the original board, Francis Krouse, is still active in the association. But many are still alive who worked on the project from its inception, including William Jess, Jack Hoffbuhr, Ben Day, Wally Martin, and Jack Hanel.

And others, including Anne Basker, current RBA chairman, and Gerald Latham, who served as chairman from 1980 to 1984, were deeply affected by the event that set the association off on its 30-year odyssey.

That event was the flood of December 1955. Memories of the destruction of the flood and an even bigger one in December 1964, remain the driving force that have kept the aging association members working hard to complete their goal.

Basker remembers the night the 1955 flood struck all too well. A young mother with four children, including one born only a month before the flood, Basker and her family got very little sleep on the night of December 21–22 as they listened to the river raging behind their house on old Highway 99 in Grants Pass.

The next morning, they were driven from their home just before the flood waters struck.

"I remember somebody stuck our Christmas tree with all its decorations still on it in the back of a pickup truck," Basker said. "And I remember feeling absolutely helpless."

Latham, who retired as the Mail Tribune's general manager several years ago, had different problems dealing with the 1955 and 1964 flood waters. As circulation manager, he chartered a small plane to deliver papers to 52 subscribers in Sams Valley who were cut off from the rest of the county by the flood waters.

During the 1964 flood, Latham improvised a different system to get newspapers across the river. This time he shot an arrow attached to a long clothes line across the swollen river and used a pulley to get bundles of papers to the other side.

But the real reason the association succeeded probably had less to do with personal memories and more to do with dogged determination.

Former state Rep. Kip Lombard, R-Ashland, put it this way:

"They had a plan and they stuck to it. As always in an organization like that you have to have dedicated individuals with a firm purpose and goal."

ROGUE BASIN PROJECT: A CHRONOLOGY

Here is a chronology of some of the major events that have marked the 30-year history of the Rogue Basin Flood Control and Water Resources Association:

December 1955: A massive flood on the Rogue River causes more than $4 million in damages along the Rogue River from Shady Cove to Grants Pass.

February 1956: The Rogue Basin Association is officially formed at a meeting in Grants Pass.

September 1961: The Army Corps of Engineers presents a plan calling for construction of a three-dam project.

October 1962: Congress authorizes the Rogue Basin Project, including the Lost Creek, Applegate and Elk Creek dams. The project's cost is estimated at $106.7 million.

December 1964: Another flood, even larger than the 1955 flood, ravages the Rogue River and its tributaries, causing an estimated $15.9 million in damages in Jackson County alone.

October 1966: Congress approves construction funds for Lost Creek dam.

June 1970: The Corps awards a $9.1 million contract to H.A. Andersen Co. of Portland for construction of the Cole M. Rivers Fish Hatchery below the future site of Lost Creek dam.

April 1972: Citizens League for Emergency Action on the Rogue, the first organized opposition to a Rogue Basin Project dam, raises questions about potential adverse impacts of Lost Creek dam.

June 1972: The Corps awards $48.2 million contract to Bohemia Lumber Division of Umpqua River Navigation Co. for construction of Lost Creek dam. By October 1972, 360 workers are on the job.

April 1973: Sierra Club launches opposition to Applegate dam and funding by Jackson County of Rogue Basin Association lobbying efforts on behalf of dam. Later, Stop Applegate Dam Committee is formed.

January 1974: Flood causes an estimated $6 million damage along the Applegate River.

April 4, 1975: Corps opens bids for construction of Elk Creek dam; apparent low bid of $39.68 million by Perini Corp. of San Francisco will never be awarded.

April 19, 1975: State Water Resources Board votes 4-3 to revoke its support for Elk Creek dam because of concerns about turbidity impact on fishery.

June 1975: Congressman Jim Weaver, D-Ore., reverses his support for Elk Creek dam, asks House committee to reject funding.

August 1975: The Jackson County commissioners vote 2-1 to deny money to the association for lobbying for Applegate and Elk Creek dams.

November 1976: Voters in Jackson and Josephine counties give the proposed Applegate dam a ringing endorsement in a nonbinding advisory vote, 41,335 to 26,176.

February 1977: The Corps closes diversion tunnel at Lost Creek Dam and begins impounding water.

February 1980: The Corps releases supplemental environmental impact statement for Elk Creek dam citing studies showing that turbidity created by dam would be within acceptable limits.

December 1980: The Corps begins filling reservoir behind Applegate dam.

April 1981: Water Policy Review Board votes to restore state support for Elk Creek dam at the request of the association.

October 1982: U.S. General Accounting Office publishes a report critical of Elk Creek dam, contending that Corps overestimated annual benefits of project by 76 percent.

February 1984: Corps of Engineers officials in Washington, DC, withdraw Corps' support for Elk Creek dam, saying it's an uneconomical project if considered on its own rather than as part of three-dam system.

May 1984: Senator Mark Hatfield, R-Ore., now chairman of the Senate Appropriations Committee, begins big push for Elk Creek dam funding.

June through November 1985: Weaver loses several attempts to get House to deauthorize Elk Creek dam. Corps officials say the dam will produce 48 cents in benefits for each $1 in costs.

January 1986: Judge James Burns refuses to issue injunction to stop Elk Creek dam sought by Oregon Natural Resources Council.

January 1986: Corps awards $62.78 million contract to Ohbayashi Corp. of Japan to build Elk Creek dam.

March 1986: Blasting for Elk Creek dam foundation begins. Construction of third and final Rogue Basin Project dam is underway.

FISH RUNS ON THE ROGUE RIVER

Chairman HATFIELD. Do you have any further comment to make, Mr. Bauer.

Mr. BAUER. No, sir; I do not.

Chairman HATFIELD. Mr. McGill, you state that fish runs on the Rogue River are breaking records and there is a reference to that in one of the news clips that you have attached to your testimony.

Could you give us any general information on fish counts of the Oregon Department of Fish and Wildlife as it relates to the Rogue River, and particularly the winter steelhead and the chinook runs.

Mr. MCGILL. We were very pleased to find that the first 3 months of 1986 brought some 14,000 past the counting station at Gold Ray Dam. That is an extremely high count considering that the previous high count had been some 8,700 fish. So we are looking at a very, very vigorous winter steelhead run.

Another good example of the health of the fish runs are the spring chinook, which are an extremely important resource of the Rogue. The previous high count in any year was 47,000 in 1978. The count this year was 41,000, a sizable increase from the 12,000 fish counts the 2 years prior to that. The forecast for last year was that it would be a disaster, even less than 12,000, when, in fact, it came in at 41,000 which was very elating to the Fish and Wildlife people as well as the citizens of the area. So the fish are healthy and prospering.

Chairman HATFIELD. Best runs in 20 years?

Mr. MCGILL. Since 1978.

FLOOD CONTROL BENEFITS

Chairman HATFIELD. Elk Creek Dam, as you know, is a multipurpose project, but with very heavy emphasis on flood control. Would you care to make additional comments about the need for this flood control in light of the devastating floods, particularly of 1955 and 1964.

Mr. MCGILL. I think Mr. Bauer is better qualified to respond to that question.

Mr. BAUER. Senator, yes. As you know very well, the 1955 and 1964 floods were significant, particularly in the downstream areas around the city of Grants Pass. Major flood control benefits for the Grants Pass area actually come from the Elk Creek project. For that reason, the citizens of Josephine County, in which Grants Pass lies, have remained very steadfast in their support of the project, not only for the flood control benefits, but for these other benefits which are so significant, principally municipal and industrial water and water quality.

Tom has talked about the fishery enhancement. We have already seen the benefits in that area. Recreation, area redevelopment. We are happy to say we have 110 people employed in the area right now.

Chairman HATFIELD. Mr. Bauer, I have information which indicates that the Elk Creek Dam would take about 2 feet off of the 50-year flood, like the devasting floods of 1955 and 1964, which have particularly hit hard in Grants Pass. That 2 feet from that record flood would really eliminate almost the water from the downtown and the streets of Grants Pass, would it not?

Mr. MCGILL. That is correct. All the technical data that we have seen indicates that 2 feet is approximately the amount that would be taken off a 50-year flood. And in a number of cases, that would keep the river from reaching its banks. So you are looking at a situation wherein possibly a 6-or a 12-inch difference in flood level might keep an entire area from flooding. This is the case with the area in and around the most heavily populated parts of Grants Pass and suburban Grants Pass.

Chairman HATFIELD. As I recall, the 1964 flood at least, caused about $50 million damages in that area, that same Grants Pass areas. So, the project would be recovered in the total cost of construction if such floods should occur three times in the future. Would that be about the figure or ratio of those dollars that were figured in that 1964 time?

Mr. BAUER. I believe that to be correct. And, of course, as you may recall, in anticipation of the completion of the entire project, including Elk Creek Lake, we had a number of public improvements which have been built in what would be the remaining flood plain if Elk Creek were not constructed.

As an example of that, the city of Grants Pass has a sewerage treatment plant which would be flooded under 1964 conditions and the effect on that treatment plant would be devastating without the flood control made available or to be made available through the Elk Creek project.

Chairman HATFIELD. Well, I appreciate very much your testimony. You are fully aware of how controversial this particular project has been.

IMPACT ON ROGUE RIVER FISH RUNS

I am always troubled a bit when objections or cases are made with either fallacious figures or the failure to recognize the contradictory, irrefutable statistics and data on this project. I constantly have those who say, "It will decimate the fish run. Elk Creek will destroy the fisheries of the Rogue River."

Now, Mr. McGill, you tell me that we have the highest run with two of those dams in place, two of the three authorized features of the Rogue basin project. You have had the highest runs of winter steelhead and chinook in almost a 20-year period.

Mr. McGILL. True.

Chairman HATFIELD. And that has not been just an erratic in one year, but we have had good fish runs over a period of time.

Mr. McGILL. The fisheries, of course, were devastated by El Nino in every river in the West, and the dams were cited as the cause, in the case of Rogue River, of that decimation when, in fact, every river to the north and the south of us on the west coast suffered the same destructive conditions at sea.

Chairman HATFIELD. El Nino?

Mr. McGILL. Yes; El Nino.

Chairman HATFIELD. You cannot blame that on the Applegate or the Lost Creek structures.

Mr. McGILL. No; you cannot.

WATER QUALITY ISSUE

Chairman HATFIELD. The second thing that has really been used frequently to try to mobilize opposition to Elk Creek has been the turbidity issue. You know we postponed and postponed and postponed and went through study upon study and each of those studies on turbidity—these are the facts now, these are scientific facts—come out, as I recall it, these studies resulted in a turbidity of 7.4 on the Jackson scale which is the standard for drinking water. Is that correct?

Mr. McGILL. Yes. As a matter of fact, many of us that fish for the spring chinook wish that we had some more turbidity these days. The river is, in fact, so clear that it is hard to fool those fish. [Laughter.]

Chairman HATFIELD. Well, it proves one case. If you stay with the facts of the case instead of trying to appeal to people's emotions with all kinds of demagoguery, you really end up succeeding in your goal. And we are going to succeed in developing that third part of the Rogue basin project, which I believe was authorized in 1962. And I think you and I will all live to see that great day when the Elk Creek project is a reality.

Mr. Mc McGILL. We will be at the dedication.

Chairman HATFIELD. There were times when I wasn't sure. Thank you very much, gentlemen.

Excuse me, Mr. Bauer, you had something further?

Mr. BAUER. One very brief point. Almost more significant, I think, than the increased numbers of fish running, we have a situtation on the Applegate River where we were actually taking some runs that had all but become decimated. You might have considered them, for want of a better term, an endangered species on that river, and they are coming back. Coho salmon, fall chinook, and cutthroat trout, which had all but disappeared, are now back in the Applegate River and building each year. It is a significant turnaround.

Chairman HATFIELD. Gentlemen, we are happy to have you here and also I believe your families accompanied you here. Would you care to introduce the members of family with you?

Mr. BAUER. Yes. Let me introduce Phyliss McGill. My wife, Ann, and as you know, I kind of think of myself as part of the second generation of this project. We are beginning to cultivate the third generation. My son, Justin, just in case we need him to help this project continue.

Chairman HATFIELD. We are very happy to see you and we welcome you to our committee today. You can go back to school and tell them that you helped support a piece of legislation back here. That is very important.

Mr. BAUER. Senator, if I may beg your indulgence for one brief moment more. As you know, Grants Pass has been designated an All-American city finalist. And we feel that one of the major reasons for that is the great asset we have in the Rogue basin project. I would like to leave with you an All-American cities hat and one of our buttons.

Chairman HATFIELD. Thank you and congratulations. It is exactly what we need here at the hearing.

Mr. BAUER. Thank you, Senator.

Chairman HATFIELD. Thank you.

OREGON COASTAL PACT PROJECTS

STATEMENT OF THOMAS MURRAY, CONSULTANT FOR OREGON COASTAL PORTS

ACCOMPANIED BY:
STANLEY JUD, SECRETARY, PORT OF NEHALEM
SHANG KNIGHT, COMMISSIONER, PORT OF NEHALEM
WILBUR TERNYIK, COMMISSIONER, PORT OF SIUSLAW
TED WEBER, COMMISSIONER, PORT OF SIUSLAW

Chairman HATFIELD. Now we have a panel representing Oregon Coastal Ports, Mr. Thomas Murray, Mr. Stanley Jud, Mr. Shang Knight, Mr. Wilbur Ternyik, and Mr. Ted Weber.

Gentlemen, you may proceed any way you wish.

Mr. MURRAY. Thank you, Mr. Chairman. My name is Tom Murray and I am a consultant to the Ports of Nehalem and Siuslaw. Nehalem is represented here by Commissioner Shang Knight, Stanley Jud. The Port of Siuslaw is represented by Ted Weber and Wilbur Ternyik.

Chairman HATFIELD. Welcome to each one of you.

Mr. MURRAY. I am also representing here the Ports of Umpqua, Gold Beach, and Brookings. And all five have prepared statements and we have submitted those for inclusion in the record.

And with your permission and at your suggestion for brevity, I would be happy to have the opportunity to digest all five briefly.

Starting at Nehalem, as you know, the jetty construction has been completed. The Corps of Engineers has a section 107 study underway and that study has been held up for about 3 years, almost 3 years now, based on litigation which is no fault of the port or the Corps of Engineers or the Congress. However, we feel that it is coming to an end. The court of appeals in Oregon in the case that the development of a marina, which is the problem in Nehalem, the case had no merit. That has been appealed to the Oregon Supreme Court, but it hasn't yet decided to take the case.

Moving down coast, the Port of Siuslaw, after its jetty completion, is about to resume a section 107 study on the development of a boat basin inside the north jetty. Now, the Corps has already expended approximately $165,000 on this study and the port is providing input now for its resumption.

Moving further on down coast, the Port of Umpqua has a small erosion problem and the Corps is studying it at the moment under their section 111 authority.

At Gold Beach, we have the continual and perennial shoaling problem. The Corps has a long-standing general investigation underway there. It could use some additional funding in fiscal 1987 to complete phase 1 of that study. The long-term solution will not be available for about 3 years.

Down on the Chetco River, as you know, there is a congressionally authorized improvement project on the Chetco. But with the present condition of finances, federally and locally, we have some question about the viability of that construction project.

With that, I would conclude the digest of all five of the prepared statements, Mr. Chairman, and turn to any here should they need amplification. Thank you.

Chairman HATFIELD. I have all five of the statements that you have submitted and they will all be made a part of the record.

[The statements follow:]

STATEMENT OF PORT OF NEHALEM, OR

My name is Stanley A. Jud. I am Secretary of the Port of Nehalem, Tillamook County Oregon. I am accompanied here by Port Commissioner, F. C. (Shang) Knight.

We are here to support the Corps of Engineers' fiscal 1987 budget request for $6,900,000 for funding Section 107 - Small Navigation Projects Not Requiring Specific Legislation.

A Section 107 study of a proposed 8-foot deep channel in the Nehalem River has been on hold in the Corps' Portland District office since September, 1983.

The removal of one shoal in the Nehalem River channel studied under the 107 authority, and the Corps issuance of a permit for the construction of a major marina complex on the river, is the key to effective use of the river and the economic benefits to be derived from the 12-million dollars of federal funds recently invested in restoring the jetties at the river mouth. The jetty reconstruction was completed in October, 1982.

In September, 1983, the Corps' Portland District advised the Port of Nehalem on its Section 107 Reconnaissance Study indicating that a 4-foot deep river channel, costing $395,000, could be economically justified, but that the Port-proposed 8-foot deep channel was not economically justifed and would require further study. The estimated cost of the additional study at that time was given as $343,000 for 2 more years of investigation.

The one shoal that restricts navigation is located about midway between the improved jettied entrance and the site of the proposed marina complex at Wheeler, Oregon -- approximately 6½ river miles upstream from the entrance. The natural channel on both sides of the shoal is as deep or deeper than the 8-foot channel that is proposed.

In October, 1983, a month after the Corps' Portland District advisement on the Reconnaissance Study, an application was made to the Portland District for a dredge and fill permit for the major multi-million-dollar marina complex on the river predicated on the availability of a suitable channel between it and the ocean. This marina development could have been, and could still be, the basis for economic justification of the proposed 8-foot deep river channel.

On March 16, 1984, six months after the Corps' Section 107 study went on hold, Oregon's Land Conservation and Development Commission approved an exception to the state's stringent land use laws to permit development of the proposed marina.

This exception to the land use law has been challenged in the courts by the 1000 Friends of Oregon, a special interest group which opposes the state agency's approval of the development. The case is now before the Oregon Supreme Court.

In the meantime, on May 1, 1985, the Corps' Portland District denied the dredge and fill permit for development of the marina, thereby removing one of the major economic justifications of the proposed 8-foot channel.

The Port of Nehalem spent over 40 years trying to obtain the Corps of Engineers' acknowledgement of its responsibility for maintaining the jetties, and to recommend funding for their seriously deteriorated and dangerous condition -- jetties for which an exceptionally small number of taxpayers in the port district paid one-half of the cost of the original jetty construction.

It was Congressional interest and action that brought about the Corps' acknowledgement of its responsibility to rehabilitate and maintain the Nehalem jetties. It was Congress that appropriated and directed the 12-million-dollar reconstruction of the jetties.

The Port again appeals to Congress for assistance in completion of a river channel under the Section 107 authority.

We thank you for your generous assistance in the past and for allowing us to come before you on this subject which is critical to the economic and social well-being of the constituency we serve.

Thank you.

STATEMENT OF PORT OF UMPQUA, OR

My name is John Wolf. I am President of the Port of Umpqua, Douglas County, Oregon.

The Port of Umpqua supports the $826,000 of Operation and Maintenance (O & M) funding requested in the Corps of Engineers' budget for fiscal 1987. These funds are essentially for dredging.

The Corps of Engineers' total budget request for $3,078,500,000 for fiscal 1987 shows offsetting receipts of $203,000,000 from proposed legislation now before Congress which will include waterway user fees and local cost sharing (H.R.6 and S. 1657). With federally authorized channel dimensions of a 26-foot deep entrance channel and a 22-foot deep river channel, the Umpqua River navigation project will fall under this legislation.

We are concerned about any cost sharing on a study or on the corrective works necessary that result from damages attributable to Federal navigation works.

In December, 1985, the Corps' Portland District undertook, and completed, an initial appraisal of wave-induced erosion of publically-owned shorelines inside the existing 3-jettied entrance at the mouth of the Umpqua River.

This study of shoreline erosion is being conducted uner Section 111 of the Rivers and Harbors Act of 1968 (Public Law 90-483) which provides authority to:

> "....investigate, study and construct projects for the prevention of mitigation of shore damages attributable to Federal navigation works."

The Corps' Portland District is also preparing an estimated $397,000 erosion control construction project under operation and maintenance funding at the inshore end of the middle, or training, jetty at the river mouth.

The existing shoreline erosion inside the Umpqua River mouth began after rehabilitation of the south and north jetty and the extension of the middle, or training, jetty and is directly attributable to these navigation works. On this basis, the mitigation required to lessen the existing shore damages, or prevent subsequent damages, should not be a cost sharing requirement of the local owners of the public lands that are being damaged by the Federal navigation works.

The navigation facilities allowing year-round waterborne carrier service for the movement of industrial products and the increasing use of recreational activities and other development at the boat basins at Winchester Bay, just inside the river mouth, justify the need for continued operation and maintenance appropriations, and for early repair of shoreline erosion caused by Federal navigation works.

The continued assistance of your committee in behalf of the Umpqua River navigation project is greatly appreciated.

Thank you.

STATEMENT OF PORT OF GOLD BEACH, OR

My name is Edwin Hirte. I am President of the Port of Gold Beach, Oregon.

The Port of Gold Beach supports the $429,000 of Operation and Maintenance funding requested in the Corps of Engineers' budget for fiscal 1986 for the Rogue River navigation project.

We ask that the Committee consider adding $90,000 to the Corps' fiscal 1987 budget to continue its study on improving and armoring the breakwater which now protects the boat basin at the mouth of the Rogue River.

In 1964 the Corps constructed a similar breakwater that was not armored and was demolished by a major flood in December of that same year. The Corps then abandoned the breakwater.

In 1971 and 1972, the Port of Gold Beach, with local donations of rock, equipment, and labor, constructed the existing breakwater on essentially the same alignment as the breakwater which had been constructed by the Corps.

Following reconstruction of the breakwater by local interests, the Corps indicated an interest in improving, armoring, and then recommending resumption of federal control of the breakwater pending further study. The material from the demolished breakwater was pushed into the boat basin by the floodwaters and has not been fully dredged from the boat basin.

The need for early and adequate maintenance dredging of the boat basin and the river entrance channel is more urgent than ever this year. The large volume of sand that has migrated some 2500 feet upstream from the ocean and deposited in the boat basin entrance has been flushed out to some extent by the larger-than-normal river freshets during the past winter months.

These river freshets pushed the sand just outside the entrance jetties forming, a bar that seriously impedes navigation and contributes to a hazard to boats using the entrance.

This restriction of the entrance comes at a time when use of Gold Beach port facilities could provide a substantial boost to the economy of the port area.

The Pacific Fishery Management Council recommendations on sport and commercial fishing seasons for 1986 indicate one of the better fishing seasons along the Southwestern Coast of Oregon, and without early and adequate dredging of the entrance channel the potential economic boost from improved fishing seasons could be lost to the local community served by the Rogue River navigation project.

The long-term major sand shoaling problem at the river mouth and in the boat basin itself, is continuing without any apparent corrective structural relief in sight.

In January, 1984, the Corps of Engineers completed construction of a 3-pile dike system between the twin-jettied river entrance to try to stop the infiltration of sand into the harbor. This system is not controlling the sand infiltration. The shoaling is closing off moorage facilities inside the harbor to such an extent that a backhoe had to dig out the end of one sand spit to permit the Corps wheelwashing dredge, SANDWICK, to leave its morrage to operate.

There is an urgent need in the short term for early and adequate annual maintenance dredging, and in the long term to provide relief from the continued heavy annual shoaling that results from the improperly functioning jetty system at the river mouth.

We again ask this Committee's assistance in providing funding to keep port facilities at Gold Beach viable.

Thank you.

STATEMENT OF PORT OF SIUSLAW, OR

My name is Wilbur Ternyik. I am a Commissioner of the Port of Siuslaw, Oregon. I am accompanied here today by another Port Commissioner, Ted Weber.

We are here to support the Corps of Engineers' Fiscal 1987 budget request for $339,000 for Operation and Maintenance of the Siuslaw River Navigation Project, and the Corps' request for $6,900,000 for funding under Section 107 - Small Navigation Projects Not Requiring Specific Legislation.

The Corps completed its 25¼-million-dollar construction of the Siuslaw jetty extension project this past October, 1985. The Corps' budget request for $339,000 for operation and maintenance in fiscal 1987 represents a 130% reduction in annual operation and maintenance cost based on 5-year average annual operation and maintenance cost of $780,200 during the years 1981 through 1985, inclusive.

While winter weather has prohibited the Corps to complete an accurate hydrographic survey of the depth in the entrance channel, the large-scale reduction in annual operation and maintenance funding for fiscal 1987 obviously reflects the Corps' estimate of the effectiveness of the jetty extensions completed last October.

A small boat basin development at the inshore end of the north jetty has been held up awaiting completion of the jetty extensions and an exception from Oregon land use laws.

In July, 1981, the Corps' Portland District published a draft, Detailed Project Report And Environmental Impact Statement, on this basin for 315 boats (85 commercial, 10 charter, and 220 recreational). This draft contained a favorable benefit/cost ratio of 1.3 to 1 on this basin which was estimated to cost $1,795,000 in 1981. The Corps' study cost at that date was reported to be $165,000.

An update on this project is now appropriate and will complement other port developments now underway following completion of the jetty extensions.

We extend our sincere appreciation for the federal funding of these projects which will provide long-term economic benefits to the Central Oregon Coast and Lane County. Thank you.

STATEMENT OF PORT OF BROOKINGS, OR

My name is Kirb Whatley. I am Chairman of the Brookings Port Commission, the sponsor of the federal navigation project on the Chetco River, Oregon.

The Port of Brookings supports the Corps of Engineers' fiscal 1987 budget request for $502,000 for annual Operation and Maintenance of the Chetco River Navigation Project.

The high annual cost of operation and maintenance results in part from the uneven jetty system at the river mouth.

The south jetty is 500 feet shorter than the north jetty. The ocean waves, generated by heavy winter storms from the south and southwest, carry sand around the short south jetty depositing it in the navigation channel. This sand shoaling in the entrance contributes to hazards to navigation.

The Chief of Engineers' report dated May 2, 1977, which recommended modification of the Chetco River projects, provided for jetties even in length into the ocean by extending the north jetty 750 feet; extending the south jetty 1,250 feet; and deepening the entrance channel to 16 feet at mean lower low water.

The last cost estimate of these improvements, which were authorized by Congress in 1981, was given by the Corps at 7.6 million dollars.

The Waterway User Charges and Cost Sharing legislation now in Congress, which would require local sponsors to share a cost of river and harbor improvements, make it financially impracticable for the Port of Brookings to meet a proposed 10% up front cost share of the Congressionally authorized 7.6 million-dollar improvement for the Chetco River. (Another 10% local cost contribution is required to be amortized over 30 years.)

Since the short, uneven south jetty at the river mouth is one of the contributors to the shoaling of the entrance, it would appear that the 500-foot extension of the south jetty to provide jetties of even length into the ocean would be the most practicable improvement to be considered at this time.

We urge the appropriation of the Corps of Engineers' budget request for $502,000 for operation and maintenance of the Chetco River in fiscal 1987, and we ask Congress to direct the Corps of Engineers to correct the defective uneven jetty system by adding 500 feet to the south jetty. Thank you.

NAVIGATION USER FEE

Chairman HATFIELD. As you know, we are moving into a new period regarding the Federal role in port and waterway development projects. Cost sharing and use fee reforms are part of a new water project authorization bill which has now passed both the House and the Senate. We're appointing conferees today on that bill.

I am rather optimistic that we will be able to provide the operation and maintenance that you have requested here in your testimony for these ports, which are vital to our State and to the Nation.

I think too that we have worked out the fairest and the most feasible kind of user fee formula for future funding of port projects—in relation to the large ports, the deep water ports; in relation to the shallow ports or the small ports—a formula that applies with equity in all of those ports. This, of course, was a very difficult task. And yet when we looked at the alternatives that were being promoted by the administration and other groups, I think the ad valorem approach that we insisted upon—the approach I put forth, I think best serves all size ports and gives some equity in the whole matter of sharing in the costs of these projects.

Mr. Murray, the economy of Oregon has been in the doldrums for quite some time and now there are stories and statistics that we have coming across our desk that shows that the State as a whole, I emphasize that, the State as a whole, is showing some improvement—slowly, but still there is the upper trend in some of these statistics where they had been either flat or downward.

And I wonder if you could comment as to how this really reflects itself in the coastal area of the State, all of the coastal economies, north to south.

CONDITION OF COASTAL ECONOMY

Mr. MURRAY. Yes, sir. On the north, the economy is perhaps lower than it was a few years ago, and I look back and I am sure you recall, too, the number of tidewater sawmills that we had and the number of logging operations that we have had. The economy in Tillamook County is still, I would say, distressed. Mill prices, as you know, are down.

When you move down into the central coastal area, there is an upswing. In the Siuslaw area, for example, there is a resurgence there of milling based in large part, Mr. Chairman, on your efforts on the timber bill. Three mills are operating. The tidewater mill is going back to work shortly.

Moving toward the south, I suspect the economy will be on the upswing again, because for the first year in several years after El Nino, the fishing season will be longer and perhaps more plentiful this year than any time in the past. And it is for that reason, I suspect, that the studies we are talking about, the small boat basins that we are talking about, will be part of the long-term economy of the coastal area. The production of lumber in the tidewater region is not there any more, sir. It is level to its bottom.

Chairman HATFIELD. Newport is sort of an island in the economic comparison to the rest of the area, is it not, in terms of the diversification of their economy and the major contribution of the educational and science programs?

Mr. MURRAY. Yes, sir; and most of that, I think, spins right back to some of the efforts in the late fifties and early sixties in the development of the navigational facilities on Yaquina Bay.

ADEQUACY OF 1987 O&M REQUEST

Chairman HATFIELD. Unlike the budget requests in the past years, the fiscal year 1987 budget for Corps of Engineers for operation and maintenance, such as the dredging programs that would affect the Oregon coastal ports, appears to be adequate. Are you concerned about the funding level for O&M in 1987 for the small ports?

Mr. MURRAY. No, sir; I am not concerned about it in fiscal 1987. There have been reductions on almost every single one of them. Some going as high as a 16-percent reduction, but the funding is adequate. There is a concern though, I mean down the road a few years, whether or not that funding will be adequate, sir.

Chairman HATFIELD. Mr. Ternyik, I would like to invite you to comment on the recently completed Siuslaw jetty. Through your hard work and leadership the Siuslaw jetty extension is a reality. We have so many projects across the country where they tend to drag on and drag on, but in this particular instance I think we have a unique case where a project was expeditiously completed in a rather record way.

Would you care to comment on that?

Mr. TERNYIK. Yes, sir, Senator. There were several things that made Siuslaw a little different. As you well know, the project was developed on a basis that all of the rock for the jetty system would be barged to the site. Then Peter Kiewit got the job and trucked in all of that rock, a massive amount of material.

At our early groundbreaking ceremony they said they would finish in 2 years instead of 3 and they did exactly that. They finished the jetties last October and the Corps and our port commission are confident that we have one of the best constructed jetties on the coast.

Chairman HATFIELD. What impact will the new jetty have on the annual operation and maintenance requirement? Will there be a reduction in the dredging requirements on Siuslaw?

Mr. TERNYIK. That is part of our testimony that we have submitted today. The operation and the maintenance cost is going to be around $339,000 this year as opposed to some $780,000 before on an annual 5-year average basis. So it is a significant reduction. Now, that is only an estimate at this time because they haven't been able to do surveys on the bar at this time because of the winter conditions.

We have a situation now where the Siuslaw bar has been open safely all winter long. There have been days when the rest of the bars up and down the coast have been closed, but Siuslaw has been open. We have had some days this year when the Siuslaw was open and Winchester was closed during the winter. In short, there has been a significant improvement.

Chairman HATFIELD. Mr. Weber, do you have any further comments to make on projects?

Mr. WEBER. Senator, people in western Lane County are very grateful for the jetty extensions due mainly to your efforts.

Touching on the economy, as you know, I am in the retail business, wholesale/retail business, and a decided upswing has been happening in the last 6 to 8 months, and it looks very favorable for western Lane County at this particular time.

Chairman HATFIELD. Mapleton is not going to become a ghost town?

Mr. WEBER. No, sir.

Chairman HATFIELD. Mr. Knight, how is everything up in the cheese country?

Mr. KNIGHT. Very banging. [Laughter.]

Senator, as you remember, about 2 years ago after completion of our jetties at Nehalem, you asked what type of boat we could use to get over the shoals, and I said at the time that probably a canoe was about the best.

You know, we now have a depth at the bar which is about 16 feet, due to the building of the jetties. But there is a minor shoal about 3 miles up that gets down to where you can walk across it with your gum boots at a low tide. You just cannot get any size of boat up there. And I told you at the time that it was probably a canoe. Unfortunately, the Indians have left the country. The white man hasn't taken to canoes and we have the motor boats that cannot get over it at a low tide.

As you remember at the dedication of our jetties, you had requested an 8-foot channel and the Corps of Army Engineers said they could justify only a 4-foot channel. When asked if there were any 4-foot channels in the United States that they knew of, the Corps said not that they knew of, and you said, "Well, let's not make Nehalem a precedent." [Laughter.]

We still concur with your thinking. And anything you can do to help us along will be greatly appreciated.

We have 8 feet. And then we have a little less than a mile of a shoal. Above that, clear up past the forks of the river, it is 8 feet or deeper, and on the other side, the bay side, the jetty side, it is 8 feet and deeper. But we have that bottleneck and anyone that wants to come and do any kind of water business at all, is prohibited by the shoals. We cannot wait, we cannot tell business interests, "Well, if you will come in, we will get that shoal removed." They want to know now.

The one thing that really bothers us is the fact that the Corps says that they can justify a 4-foot channel, but if they go to an 8-foot channel they have to have another study. And they estimate their 2-year study to cost $343,000 on a project that won't cost over $600,000 at the maximum. And it is hard to explain to our people why we have to go through that. It looks like that somewhere along the line that the cost of the study should be in relation to the cost of the project.

Chairman HATFIELD. Mr. Knight, very forthrightly, it would be very difficult for us to take any action until the legal problems are resolved. When do you anticipate the court action?

Mr. KNIGHT. We hope within the next couple of months.

Chairman HATFIELD. Keep us informed on that, if you will.

You were commenting a little while ago about the inability to secure canoes because the Indians have left the country. Now, have you checked with Wilbur Ternyik to see whether you could borrow his canoe?

Mr. KNIGHT. He is on the Siuslaw and he has taken care of his end. [Laughter.]

Chairman HATFIELD. Mr. Jud, do you have any further comments you would like to make?

Mr. JUD. I did have, but it is hard to follow Shang. He covered everything I was going to cover. I will just reiterate that it is awful hard, you know, for us local people to explain to the taxpayers of the area why—well, the 2-year-old figure of $343,000 is probably $400,000 or more now, to spend on a study of a project that is going to cost very little more than that. It is just really hard to explain this to the local people and justify it.

Chairman HATFIELD. Thank you, Mr. Murray and gentlemen for your very helpful testimony.

Mr. MURRAY. Thank you, Mr. Chairman.

Chairman HATFIELD. I would like to invite Dr. Robert Saxvik, chairman of the Pacific Northwest Power Planning Council, and Mr. Kai Lee, the vice chairman.

BONNEVILLE POWER ADMINISTRATION CONSERVATION PROGRAM

STATEMENT OF ROBERT SAXVIK, CHAIRMAN, PACIFIC NORTHWEST POWER PLANNING COUNCIL

Mr. SAXVIK. Mr. Chairman and members of the committee, we are pleased to come before you today to encourage your thoughts on certain aspects of the conservation budget of the Bonneville Power Administration.

With me today is Kai Lee, who is the vice chairman of the council and representing the State of Washington.

As you are well aware, Senator Hatfield and Senator Burdick, the council, as created by the Congressional Act of 1980 and the Governors of the four Northwest States of Montana, Washington, Oregon, and Idaho, appointed members to do certain functions as outlined in the act. That was the development and monitoring and implementation of the Northwest power plan and the Columbia River Basin Fish and Wildlife Program. The power plan is designed to ensure that the region acquires only those resources that are cost effective and needed. Amongst them, as in the congressional directive, the first priority is conservation, cost effective conservation.

The fish and wildlife program has an equal status. It is the major effort to restore fish and wildlife resources of the Columbia River system as affected by the development and operation of the hydroelectric system.

I would say that the previous witnesses' comments about the increased runs on the Rogue River certainly are heartwarming to those of us on the council who for 5 years have toiled in the vineyards coordinating a fish and wildlife program with the assistance of BPA, the States and Federal agencies, and sportsmen's groups.

Again this year the council has reviewed the BPA fiscal year 1987 budget as proposed by the administration. That budget proposes conversation borrowing authority cuts that appear to be less severe than the massive cuts proposed in fiscal year 1986. Upon further analysis, it is clear that the cuts would substantially affect the region's ability to acquire the most cost-effective conservation resources when they are needed in the future. Because of the substantial surplus of electricity in the Pacific Northwest, the council is not advocating a strong program of acquisition of conservation saving that would only add to the current surplus. However, we believe it is necessary to put in place the mechanisms and institutional capability to acquire conservation when needed.

The council also analyzed the Bonneville conservation budget for the current fiscal year, a budget which contains issues addressed by the council and the subcommittee last year. The evolution of the fiscal year 1986 budget points to substantial uncertainties resulting from intervention by the Office of Management and Budget after Congress had acted last year to restore proposed cuts.

I would like now to call on Mr. Lee, our vice chairman, to talk about specifics in that fiscal year 1987 budget.

Mr. LEE. First we would like to discuss the fiscal year 1987 BPA budget. Conservation is, as you know, Mr. Chairman, the centerpiece of the council's regional energy plan. The conservation budget for fiscal year 1987 proposes obligations of $139.1 million. In the past, the council has criticized the budgets for failure to diversify BPA's conservation activities to all sectors of energy consumption.

The fiscal year 1987 budget reflects diversified and increased activity in the commercial, industrial, agricultural, and governmental sectors, together with decreased activity in the existing residential building sector where much is already known about conservation activities.

Unfortunately, the administration budget also proposes a $21.7 million undistributed reduction in conservation borrowing authority for the coming fiscal year. Since these cuts are not distributed to specific programs, it is difficult to estimate their impact. However, if one assumes that the Residential Weatherization Program for existing residences is budgeted at the minimum viable level, as the budget narrative asserts, distributing the $21.7 million cut to the remainder of the conservation budget would result in a 24-percent reduction in capability building and the promotion of new building energy efficiency. We should emphasize the latter.

New building energy efficiency is a very high council priority. Building constructed today will far outlast the current power supply surplus in the Northwest. In addition, it is more expensive, and in some cases-simply impossible, to recover the cost-effective conservation savings at a later date. Therefore, even in times of surplus, such as the present, it is essential to capture cost-effective savings when new buildings are built.

In the administration budget, the principal source of funding for new building efficiency is found in the model conservation standards account. The funding level in that account was established before the council's 1986 power plan called for increased incentive levels to spur efficient construction. If the funding proposed in the administration budget is assumed to be adequate, and it may well be inadequate, for the implementation of the model standards, spreading of the proposed cuts to the remainder of the conservation budget while preserving the residential weatherization program at the minimum viable level would result in total in a 33-percent cut in the remaining conservation activities.

The council believes that the region's conservation activities cannot sustain these levels of cuts without significant adverse effects. The council is cognizant of the region's current surplus and we do not advocate the acquisition of megawatts, either through conservation or the construction of new generating resources. Instead, the council has been promoting a diversified effort to prepare for the future for timely and efficient implementation of conservation programs when they are needed in the future. These preparations will be seriously disrupted if the administration's proposed cuts are accepted by the Congress.

COMMENTS ON 1986 BUDGET

Let me now turn to some comments on the BPA budget for the current fiscal year.

A year ago this council testified in opposition to the administration's proposal to cut $72 million from the BPA conservation budget. Congress, with leadership from this subcommittee, restored the cuts, leaving BPA with a conservation budget in excess of $145 million. The administration's fiscal year 1987 budget reestimates the Bonneville conservation budget for the current fiscal year and sets it at only $107 million instead of the $145 million approved by the Congress.

Furthermore, we understand that OMB did not provide any borrowing authority allocation to BPA until 4 months into the current fiscal year. That substantial delay and reduction in level from the congressionally approved amount is not explained in the budget documents. It raises a concern that clear congressional action rejecting proposed cuts does not count for much once the fiscal year begins. Although it is too early to know the effect of these program reductions in detail, we believe that Congress should determine the rationale for the reductions. Clearly, the predictability of BPA's conservation programs in the region is undermined by such dramatic changes in funding levels.

Mr. Chairman, we appreciate this subcommittee's past assistance in continuing the region's pursuit of cost-effective energy planning and we would be pleased to answer any questions that you or the subcommittee may have.

STATUS OF CONSERVATION LITIGATION

Chairman HATFIELD. Could either one of you comment on the recent appeals court decision in the so-called master builders law suit?

Mr. SAXVIK. Mr. Chairman, I think over in Idaho it takes a little while for the paper to get over the mountain and I have been on the road, but Mr. Lee has had the opportunity to read that. I would only say that we are pleased that the members failed in terms of signaling what Congress is saying to Northwest Power.

The Fish and Wildlife Program has been sustained by the court. I think I can make that statement fairly. And knowing full well and having walked the trails, that no court decision at these various levels is final, but we are pleased with that.

I think Mr. Lee would probably have some more additional comments to make.

Mr. LEE. Mr. Chairman, as Mr. Saxvik has ably summarized, the U.S. Court of Appeals for the 9th Circuit has dismissed a petition brought against the council in 1983 by the Seattle Master Builders and several other petitioners.

In essence, the court of appeals has reaffirmed the council's judgements in its 1983 power plan, and particularly has found that the judgements we made about energy conservation in general and the model conservation standards were arrived at through a proper process.

Moreover, I think, and of broader significance, the 9th Circuit has found that the process of creative federalism, of cooperation between the States and the Federal agency in the Bonneville Power Administration, is appropriate from a constitutional point of view.

As the chairman of our council just said, this process is not necessarily at an end, but I think that the Power Planning Council is well satisfied by this ruling from the 9th Circuit.

Chairman HATFIELD. Thank you very much.

[The statement follows:]

STATEMENT OF NORTHWEST POWER PLANNING COUNCIL

The Northwest Power Planning Council is testifying in mid-April on the energy aspects of the Bonneville Power Administration budget before the Energy and Water Development subcommittees of the House and Senate Appropriations committees. A copy of that testimony is attached for your information. The testimony calls for restoration of $21.7 million in proposed FY 87 conservation borrowing authority cuts. In addition, it urges Congress to review the Administration's rationale for the dramatic reduction in FY 86 conservation borrowing authority--reductions that occurred after Administration-proposed cuts were rejected by Congress.

The Council also monitors the fish and wildlife activities of several federal agencies whose implementation of the Council's Columbia River Basin Fish and Wildlife Program is essential to its ultimate success. These agencies include the Bureau of Reclamation (Bureau), the Corps of Engineers (Corps), the Federal Energy Regulatory Commission (FERC) and Bonneville Power Administration (BPA). In addition, the Columbia River-related activities in the National Marine Fisheries Service (NMFS) budget are reviewed.

The Council program was adopted pursuant to section 4(h) of the Northwest Power Act in 1982 and was amended in 1984. As provided by that act, the program is developed through an extensive public involvement process involving the review of numerous recommendations by federal and state fish and wildlife agencies, tribes, utilities, citizen groups, and the public. This review is undertaken through frequent hearings and consultations around the region. The goal is to reach a regional consensus on priorities to rebuild the depleted salmon and steelhead resources of the Columbia River system and to protect, mitigate, and enhance other fish and wildlife resources of the basin to the extent they were damaged by construction and operation of hydroelectric facilities. In the 1984 amendment process, the Council adopted an action plan to establish priorities among the measures contained in the program.

This letter summarizes our review of proposed agency budgets for the Bureau, the Corps, FERC, BPA, and NMFS and suggests changes essential to expedite full implementation of the Council program.

BUREAU OF RECLAMATION. One of the Council's highest priorities is the completion of fish passage facilities in the Yakima River Basin--a tributary to the Columbia that represents one of the best enhancement opportunities in the basin. Fish passage projects--including screens, ladders, and other facilities--are currently under construction pursuant to a schedule that has been agreed upon by the federal agencies, the Yakima Indian Nation, state agencies, the Council, and other affected parties. The FY 87 Bureau budget appears to contain sufficient funds--$12 million--for continuation of these activities on schedule. The Council supports retention of these critical funds.

The budget also contains $100,000 for advance planning for the Yakima River Basin Water Enhancement Project. The Bureau has recently announced its intention to prepare an environmental impact statement on a variety of storage and water conservation alternatives designed to enhance flows for fish migration. The Council believes that water conservation should be fully and carefully evaluated in the environmental review process. An additional $150,000 would expedite preparation of this important environmental impact statement.

The budget also contains $134,000 for advance planning for the Umatilla Basin Project. It appears beneficial to provide additional funds for design and specification work for the small pumping project near the mouth of the Umatilla River. This project would provide Columbia River flows to assist in Umatilla River fish passage. Approximately $200,000 should be sufficient for this work. In addition, approximately $50,000 would enable the Bureau to expand its general investigative work to address the prospects for groundwater enhancement in the basin. At the present time, the Council takes no position on a related proposal to authorize construction of the $4 million small pumping complex. It does appear that the project could complement the other Umatilla River projects in the fish and wildlife program.

CORPS OF ENGINEERS

1. Background

During deliberations on the FY 86 budget for the Corps of Engineers, the Council focused considerable attention on the need for additional mainstem passage funds. Mainstem passage is one of the highest Council priorities in the fish and wildlife program. It is variously estimated that between 10 and 20% of migrating juvenile salmon and steelhead are killed at each mainstem dam as they attempt to migrate to the ocean. The compounding effect of these mortality rates can be seen in the following example. Assuming a 15% mortality rate per dam, only 27 of every 100 migrants would survive passage through the eight projects on the Columbia/Snake River system. The most depleted stocks of salmon and steelhead are the upriver runs that must negotiate these projects that have inadequate or non-existent juvenile passage facilities.

Congress recognized the importance of expediting the fish bypass studies, design, development and construction of these facilities in the FY 86 appropriations process. The Corps was appropriated an additional $2.9 million to accelerate prototype bypass studies. In doing so, Congress clearly expressed its awareness of "the necessity to ensure that adequate downstream juvenile salmon and steelhead fish passage facilities exist, permitting passage around the Columbia River mainstem dams..." and that "existing fish passage facilities need substantial improvement and that additional funds are required to improve these facilities as rapidly as possible."

The Corps of Engineers subsequently reported that it could undertake the FY 86 study activity without expending all Congressionally appropriated funds--principally saving money through the use of existing fish passage screens instead of fabricating new ones. As a result, the Corps will be able to carry over some $1 million for continued evaluation of these high priority projects.

The Council supports continued priority for these Corps fish passage activities. The Council's Mainstem Passage Advisory Committee will be reviewing the mainstem passage schedule in May to offer ideas on how the schedule, which is currently slipping, might be expedited.

Construction of the Dalles North Shore fish ladder will be completed by the spring 1986 migration. Construction work on the John Day Dam juvenile fish passage facilities is progressing, with three additional units operational by this spring. Twelve units are now completed and operational. Four additional units remain to be completed by the end of March 1987. The Corps has shifted $2.3 million in FY 86 construction funds for the remaining units and will need to shift an additional $1.1 million to complete them.

2. Need Additions

It appears that, with several exceptions, the Corps should be able to continue fish passage work in FY 87 at all mainstem projects, and the Council supports retention of these funds--approximately $7.2 million. Assuming that the Corps carries over funds as planned and receives sufficient funds and Congressional guidance, the existing budget levels, with additions outlined below, should be sufficient to continue expeditious work on mainstem passage projects.

A number of actions could be taken to expedite additional fish passage work. Most important, the Corps currently plans to initiate studies on a new generation of double-length screens in FY88, and then only at a modest level of activity. The Council believes that the design and construction of improved test screens can and should be initiated more expeditiously in FY 87 at a minimum level of $140,000. These design and construction activities are currently planned to extend over three fiscal years at a total cost of $1.5 million. Tests are not planned by the Corps until the fall outmigration of 1991 at an unknown cost. On that schedule, results would not be available until after screens have been put in place at other mainstem projects.

Accelerating the conclusion of these tests could ensure that the Corps will be able to install the best available screen technology as it undertakes construction activities at mainstem dams over the next several years. Delaying the study of new screen technologies could lead to unnecessary and harmful delays in the construction of needed passage facilities in the future.

In addition, the Council has been advised that additional hatchery releases from Lower Snake Compensation Plan hatcheries in the upriver portions of the Columbia/Snake system are taxing the facilities presently employed to collect and transport salmon and steelhead migrants. An additional $450,000 may be needed to undertake design of expanded juvenile fish holding and barge loading facilities at Little Goose Dam. Depending on the results of reconnaissance studies in FY 86, an additional $200,000 could be used to conclude planning and design work on similar fish holding facilities at McNary Dam.

FEDERAL ENERGY REGULATORY COMMISSION. The Commission budget for FY 87 contains some $29.3 million for hydropower regulation nationwide. This represents an increase of $1.3 million over newly re-estimated FY 86 levels. (Since the agency reallocated some hydroelectric regulation funds to the natural gas regulation area, the amount proposed for FY 87 is actually a slight reduction from the FY 86 levels adopted by Congress last year.) It is not clear that the $3.1 million proposed nationwide for hydroelectric environmental studies will be sufficient to undertake additional clustering studies of cumulative hydroelectric facility impacts in the Columbia River Basin in FY 87. The Council supports continuation of the experimental study on the Salmon River in Idaho. If the process proves suitable, a number of other rivers in the basin could be candidates for clustering studies in the future.

BONNEVILLE POWER ADMINISTRATION. Bonneville is responsible for funding numerous aspects of the Council's fish and wildlife program, applying ratepayer funds for a wide variety of projects and reimbursing for activities conducted by other governmental entities including, for example, the Corps of Engineers construction of the juvenile fish passage facilities at John Day Dam. The Council and Bonneville have pursued a productive relationship that has generally led to timely funding of the program.

As BPA has advanced further into implementation of a larger number of fish and wildlife projects, however, it is becoming clear that additional personnel should be allocated to avoid unnecessary delays in contracting, procurement, and coordination with the fish agencies, tribes, the Council, and other affected parties. The additional personnel should not be employed by BPA to supplant the fishery management activities of the fish and wildlife agencies, but to help ensure that program measures can be pursued more expeditiously. Bonneville is currently considering an agency reorganization of the Fish and Wildlife Division that would provide additional staff over time. Expediting the allocation of additional staff in that division and in procurement would help materially in implementation of the program.

NATIONAL MARINE FISHERIES SERVICE. The NMFS budget once again includes the Administration's proposal to transfer funding of the Mitchell Act hatcheries to the Bonneville Power Administration. The Council has opposed this transfer in the past because it is our understanding that the hatcheries were expected to be an existing program that was to continue with Congressional appropriations. We continue our opposition and note that the region is meeting its obligation to provide regional ratepayer funds for fish and wildlife restoration activities. In fact, over the next twenty years, the region's ratepayers will expend a substantial sum to compensate for hydroelectric system damage to salmon and steelhead, and to provide other fish and wildlife protection and enhancement. Given this level of effort, we believe that the federal government should continue its pre-existing activities designed to mitigate some of the adverse effects on the fish and wildlife resources of the Columbia River system.

The Council is also concerned that the National Marine Fisheries Service budget is the focus of massive cuts that could undermine NMFS activities related to the Columbia River Basin Fish and Wildlife Program. Overall, NMFS is slated to absorb 40% cuts in FY 87. These cuts would reduce Northwest fisheries activities by nearly 50% and would adversely affect the effort to restore Columbia River salmon and steelhead. Programs that would be affected include habitat research, fish facilities engineering, and general program implementation. Many of these Northwest fisheries activities of NMFS have operated at level or declining real funding for the past several years. We urge that levels of funding for these important programs be carefully reviewed and that they not be reduced further.

It is clear that the success of the Council's fish and wildlife program depends on the continued support of the Congressional delegation. We appreciate very much your past interest in and support for the Council's activities. If you need additional information on these proposed adjustments in agency FY 87 budgets, please feel free to have your staff contact Rick Applegate at the Council's central office.

ADDITIONAL PREPARED STATEMENTS

Chairman HATFIELD. I would like to include in the record at this point a statement from Dan Ogden, manager of the Public Power Council; and a detailed prepared statement submitted by the Confederated Tribes of the Umatilla Indians.

[The statements follow:]

STATEMENT OF THE PUBLIC POWER COUNCIL, PORTLAND, OR

Mr. Chairman and Members of the Subcommittee, my name is Daniel M. Ogden, Jr. I am Manager of the Public Power Council in Portland, Oregon. Our organization represents 115 municipal electric utilities, public utility districts, and rural electric cooperatives which are preference customers of the Bonneville Power Administration (BPA). From 1978 to 1984, I was Director of the Office of Power Marketing Coordination in the United States Department of Energy. I am therefore thoroughly familiar with the issues before the subcommittee today.

We oppose two recommendations contained in the President's budget: first, that the Bonneville Power Administration and the other federal power marketing administrations be sold to non-federal interests; and, second, that the system used for recovery of the costs of the federal projects be changed.

The Proposal to Sell the Bonneville Power Administration

We vigorously oppose sale of the Bonneville Power Administration. The executive committee of the Public Power Council at its regular monthly meeting March 13 in Portland, Oregon, adopted the following resolution:

"Resolved, that the Public Power Council vigorously opposes any sale, transfer, exchange, lease or other disposition of the Bonneville Power Administration."

The study which led to this conclusion was conducted by a special Task Force on Defederalization of the BPA, which the executive committee established by a resolution adopted at its meeting on January 9, 1986, in Seattle. The task force conducted a two-month study using four technical subcommittees: Institutional Options, Financial Issues, Legal Issues, and Technical and Operational Issues.

The Subcommittee on Institutional Options early developed a set of overall goals which the executive committee adopted. The overall goals greatly narrowed the field of inquiry for they expressly excluded from further consideration several options which the Administration has advocated. I therefore wish to explain several of these goals briefly.

First, the overall goals reject any form of private ownership of the Federal Columbia River Power System (FCRPS). As far as we are concerned, there is no compromise possible on the principle of public ownership of the Columbia River and of the multiple purpose projects which the federal government has constructed on it to serve the needs of the people of our region.

Second, the FCRPS must be preserved intact. We will not consider piecemeal disposition of the FCRPS or of the Bonneville regional power grid or the interregional intertie.

Third, any transfer, intact, to a regional public agency must not further increase the cost of power. We have recently achieved a degree of rate stability after a period of five years in which rates doubled and redoubled by nearly 600 percent. The shock has left our region's industry severely crippled and economic recovery has been very difficult. The entire region is united in its belief that we cannot absorb additional rate shocks at this time.

Fourth, the FCRPS must not be placed at auction to the highest bidder. Any transfer must be at a negotiated price which is seen as fair both to the people of the United States and to the people of the Pacific Northwest.

Fifth, preference for public bodies and cooperatives in access to the power produced by the FCRPS must be preserved in any regional institution.

These are only five of the 13 overall goals.

Of special interest are the findings of our financial analysis model. We selected four scenarios from a wide range for more detailed study: a sale price of $4.5 billion with a repayment period of 40 years with tax-exempt bonds at 7.75 percent; a sale price of $4.5 billion with 30 years repayment and taxable bonds at 10.25 percent; a sale price of $8.85 billion for 30 years at 10.25 percent; and a sale price of $22 billion for 30 years at 10.25 percent.

The $8.85 billion price--the estimated unrepaid debt as of the end of FY 1987 which the Administration proposes--would require increased revenues of $521 million the first year and a 33 percent increase in rates, nearly the same amount requested in the repayment changes of last year which the Congress rejected.

The $22 billion price--BPA's estimate of replacement cost--would force a 218 percent rate increase of $2.7 billion a year annually and would wreak economic havoc in the Northwest. Indeed the losses in tax revenues and in unemployment compensation to the federal, state and local governments would wipe out the interest the government could earn from investing the capital it realized from the sale.

With this and other information, we explored all feasible options we could devise. All of the subcommittees encountered problems of such severity in all alternative patterns that we concluded that the existing institutional arrangements are clearly superior to any alternative we could devise.

Repayment

The Administration has again recommended a proposal to revise the system used by the BPA and the other power marketing administrations for repayment of the Federal investment in hydroelectric facilities at Federal multiple-purpose water resources projects. Although this year's proposal is much more modest than last year's, it seeks the same objectives.

The Congress rejected the entire proposal last year. On November 6, 1985, the entire Congressional delegation from the Pacific Northwest wrote Mr. James Miller, Director of the Office of Management and Budget, that "any attempt by the Administration to change the current (repayment) methodology would be wrong and unfair and would face strong and successful opposition in the Congress." We strongly support the position of our Congressional delegation.

BPA is meeting its repayment obligations. On September 30, 1985, BPA made an interest payment of $374 million and an amortization payment of $266 million to the United States Treasury. These were the payments BPA had projected it would make when it went through the 1985 rate adjustment process. Payments of similar size are planned for this year. The current rate structure for BPA customers is set to ensure that timely repayment will continue to be made to the U.S. Treasury. Therefore we urge you to reject these proposed changes again. We remain committed to ensuring that BPA will fully meet its repayment obligations in a timely fashion consistent with the established procedures for determining and discharging those obligations.

The Administration's repayment proposal for FY1987 is limited entirely to the amortization of the capital which Congress has appropriated over the years to construct the Federal Columbia River Power System (FCRPS). The proposal would not change the repayment plans for the repayment of funds BPA has borrowed under its self-financing arrangements provided in the 1974 Federal Columbia River Transmission System Act and the 1980 Pacific Northwest Electric Power Planning and Conservation Act. The proposal is to require fixed equal annual amortization payments over the remaining years for each item of property. The consequence of that change would be to increase BPA revenue requirements by $139 million in FY1987. Similar large increases, varying from year to year, would occur in every year thereafter for the next several years. The government will receive no more money in the long run. Indeed, interest income would be somewhat reduced by the more rapid repayment of the capital investment.

The system which BPA now uses is similar to that used by most lending institutions. The lender expects to recover both principal and interest and schedules repayment in several equal installments which consist of part principal and part interest. In the early period of the loan, interest payments are fairly large and the principal payments small, but as repayment progresses, the outstanding principal is reduced, the interest obligations decline, and the principal payments therefore can be increased.

What the Administration proposes is a system with equal amortization payments and declining interest payments for each item of property. Thus the combined capital and interest payments would decline throughout the repayment period rather than remaining level as in a normal loan situation.

This not only overloads costs on the power users in the early years of repayment, but is also very poor rate-making policy. The Administration's proposal would send erroneous price signals to electric customers by telling them that the price of power is declining year by year, when, in fact, the cost of power is remaining fixed, or perhaps increasing slightly with inflation.

The Administration's proposal for FY 1987 also is inconsistent with the provisions of the Pacific Northwest Electric Power Planning and Conservation Act of 1980. The 1980 Act prescribes in section 7(i) a very elaborate procedure for establishing BPA rates. BPA just last year completed such an elaborate procedure and established rates for the period through September 30, 1987. The Administration's proposal would require a significant rate increase, probably from 6 to 9 per cent, depending on the allocation among rate categories. BPA cannot raise rates again without going through the complete 7(i) process, which will require comprehensive cost-of-service studies and other analyses to justify the allocation of such additional costs to the appropriate customer classes. This process, which involves an elaborate process of discovery, formal testimony, cross-examination of witnesses, and the preparation of a formal Record of Decision by the Administrator, normally takes the best part of a year. We now anticipate that BPA will have to begin the scheduled 1987 rate revision process by late summer this year. It would be extremely difficult to fulfill the procedural requirements of the 1980 Act in order also to raise rates as the Administration proposes by the beginning of FY1987 on October 1, 1986.

We object to this proposal also on procedural grounds. It is essentially the same proposal as the amendment offered on the floor of the House of Representatives on November 6, 1985, by Representative Thomas Petri (R. Wisconsin). Representative Petri withdrew the amendment when Representative George Miller (D. California) promised Mr. Petri that the Subcommittee on Water and Power of the Committee on Interior and Insular Affairs would hold hearings on the proposal if Mr. Petri would submit it to the Congress as a bill. The Interior Committee is the proper standing committee to examine such a radical change in public policy and the matter should be left to the Committee's care. It therefore is improper for the Administration to have raised the issue before this Committee and the Subcommittee should refuse to give the matter further consideration.

We ask, therefore, that you reject the proposal to require equal annual amortization payments by the BPA and the other power marketing administrations. It is unnecessary and inappropriate.

Mr. Chairman, I will be happy to answer any questions the Subcommittee may have.

STATEMENT OF THE CONFEDERATED TRIBES OF THE UMATILLA INDIAN RESERVATION

Summary

The Confederated Tribes of the Umatilla Indian Reservation request that $275,000 be added to the Bureau of Reclamation's FY 1987 budget for General Investigations, Umatilla Basin Project, Oregon:

(a) $200,000 to augment the Bureau's advanced planning budget;

(b) $75,000 to extend the Bureau's plan formulation activities.

The purpose of the additional $200,000 is to get the Bureau's advanced planning activities back on schedule and facilitate implementation of an early-action element of the Umatilla Basin Project deemed necessary to avert potential conflict between tribal treaty reserved-rights to fish and federally-sponsored, nontribal irrigation in the Umatilla River Basin.

The purpose of the additional $75,000 is to capitalize on the Bureau's long presence in the Umatilla Basin by extending its plan formulation activities to consider alternative conjunctive uses of groundwater and surface water to address acute groundwater depletions in the basin.

Background

The Walla Walla, Cayuse and Umatilla people comprising The Confederated Tribes of the Umatilla Indian Reservation reserved certain rights, including the right to anadromous salmon and steelhead, when they ceded most of their territory to the United States in the treaty of 1855.

NonIndian freshwater and marine fisheries, federal hydroelectric development on the Columbia River and tributaries and federally-sponsored irrigation projects on the Umatilla River resulted in defacto abrogation of the treaty-reserved right to fish. This had far-reaching, adverse social, economic and cultural impact on the Confederated Tribes.

The federal courts have repeatedly reaffirmed the treaty-reserved right to fish. In recent years, the courts mandated tribal/nontribal harvest allocations. In the Pacific Northwest Electric Power Planning and Conservation Act of 1980 the treaty-reserved right to fish was reaffirmed and a funding mechanism provided to begin redressing the social, economic and cultural impacts of the Federal Columbia River Power System.

The remaining link in the chain of actions required to fulfill the treaty obligation is a solution to federally-sponsored irrigation-depleted streamflows in the lower reaches of the Umatilla River which substantially prevent anadromous fish from migrating to and from the Confederated Tribes' reservation and other usual and accustomed fishing places. This is the link addressed in this request for additions to the Bureau of Reclamation's FY 1987 budget.

Situation

Federally-sponsored irrigation withdrawals are now the principal impediment to remedying the defacto abrogation of the Confederated Tribes' treaty-reserved right to fish.

Fortunately, unlike many tribal-nontribal water use conflicts elsewhere in the country, the Umatilla Basin has an abundance of water available to resolve the conflict between nontribal irrigation and treaty-reserved rights to fish. The Columbia River, fourth largest river in North America, flows past our doorstep at an average daily rate of approximately 180,000 cubic feet per second. A daily average of more than 450 cfs - about 330,000 acre feet of water per year - flows out of the Umatilla River Basin unclaimed and unused.

We have the water in abundance. Now we require the means to put it to use in a way that will fulfill the treaty-reserved right to fish while at the same time preserving existing nontribal water uses. And this requires funding from the Federal Treasury.

Rather than seek immediate judicial relief from nontribal irrigation-depleted streamflows, which could have had traumatic effect on the area's agricultural economy, the Confederated Tribes joined with State of Oregon and Umatilla Basin irrigation districts to seek a constructive solution.

After an exhaustive, years-long review of alternatives in a Bureau of Reclamation-conducted study, tribal and nontribal water interests pragmatically concurred on the least-cost approach to restoring Umatilla River flows necessary to protect the treaty right to fish and to preserve existing irrigation use. This project is discussed at length in Planning Report/Draft Ennvironmental Statement, Umatilla Basin Project, Oregon. U.S. Department of the Interior, Bureau of Reclamation, April 1986.

The Umatilla Basin Project basically entails constructing pumps and appurtenances to exchange water pumped from the Columbia River for water presently diverted from the Umatilla River for irrigation:

(a) A small, approximately $4 million complex of pumps which would exchange Columbia River water for Umatilla River water diverted at Three Mile Falls Diversion Dam. This would allow salmon and steelhead to ascend the lower reaches of the Umatilla River where they could be harvested or captured and hauled around the dewatered section of the river pending completion of the bulk of the project;

(b) An approximately $36 million complex of pumps and appurtenances which would exchange Columbia River water for Umatilla water diverted above Three Mile Falls Diversion Dam, allowing unimpeded migration of fish to and from the upper Umatilla River Basin, including the Confederated Tribes' reservation.

LOCAL COST SHARE: approximately $15 million in capital expenditures approved for nonfederal, regional ratepayer funding through the Northwest Power Act, approximately $1.7 million in place and another $5-6 million in final design stage; approximately $1.2 million per year or about 25% of the Umatilla Project's total annualized cost proposed for nonfederal, ratepayer funding.

Status

The Bureau of Reclamation has completed the feasibility report/draft environmental statement referenced above. In FY 1987 BR will begin advanced planning. Only $130,000 - about one-quarter the need projected earlier - is presently in BR's Umatilla Project FY 1987 advanced planning budget due to budget reductions which have now stretched the planning process far beyond normal schedule, adding three-four years or more. These delays have also figuratively stretched the necks of the people of the Umatilla River Basin over the chopping block.

The Bureau of Reclamation has stated the hard-won cooperation between competing water interests in the Umatilla Basin is unprecedented in its West-wide experience. But the stakes - people's livelihoods and ways of life - are high, consequently, so is the underlying tension. There are enormous and growing economic and political pressures that threaten the tenuous cooperation between tribal and nontribal interests.

There is great and growing risk we won't be able to avoid confrontation if the Bureau's present under-funded, interminable advanced planning schedule is not expedited.

We are aware BR cannot voluntarily depart from the Administration's FY 1987 budget. We anticipated increasing budget reductions and concommitant delays and developed a practical strategy and funding level that would expedite (actually, return to normal scheduling) the small pumping complex identified in (a) above.

For approximately $200,000 BR could complete designs and specifications on the small pumping complex in FY 1987. With the appropriate authorization to construct, this small facility could be in place by the fall of 1988 in time to avert potential conflict between returning salmon and irrigation. This would accelerate implementation by as much as three or four years over BR's present schedule which no doubt will continue to slip. And would dovetail with nonfederal expenditures of approximately $3 million to improve fish passage in this reach of the river and reduce the amount of water that must be pumped.

The small pumping complex would have significant benefits independent of the remainder of the Umatilla Basin Project. It would be integrated into the overall project when constructed. The small pumping complex would allow tribal and nontribal water interests to maintain their tenuous, peaceful coexistence pending completion of the overall project. And in the worst case event the total project were not funded by Congress, the small pumping complex would provide a critical fall-back position from which tribal and nontribal interests might contemplate their options and thereby avert percipitous, confrontational actions.

FY '87 Help Required

Required is $200,000 to be added to BR's FY 1987 budget for General Investigation advanced planning, Umatilla Basin Project, Oregon.

Slightly less critical, but nonetheless important, is the need for $75,000 to be added to BR's FY 1987 budget for General Investigations, plan formulation, Umatilla Basin Project, Oregon. These funds would be used to extend BR's plan formulation activities to analyze alternative conjunctive uses of groundwater and surface water to address the Umatilla Basin's acute groundwater depletions.

Large areas of the basin have been declared Critical Groundwater Areas and pumping limited by the State of Oregon. Additional areas, including areas on and near the Confederated Tribes' reservation are suspected of being overdrafted. This situation heightens the general water-use tension in the basin and generates pressures that could jeopardise constructive solutions to conflicts between irrigation and the treaty-reserved right fish that are addressed in the Umatilla Basin Project.

Given BR's extensive contemporary work in the basin, there are significant efficiencies in simply extending the ongoing effort. In addition, BR's trust responsibility ensures the Confederated Tribes opportunity to protect our long-term interests.

We appreciate the opportunity to submit testimony for the record of these FY 1987 appropriations proceedings. The funds we have requested be added to the Bureau of Reclamation's FY 1987 budget are modest, but disproportionately important to bringing about constructive fulfillment of the Confederated Tribes' treaty-reserved right to fish and related social, economic and cultural values.

STATEMENT OF THE UMATILLA BASIN PROJECT

We urge your consideration and approval of the following items to be added to the Bureau of Reclamation FY 1987 budget:

1. $75,000 to expand BR's current studies in the Umatilla River Basin of Northeast Oregon to include the interrelationship of surface water enhancement and critical ground water levels.

2. $200,00 to pursue planning and design of a small pumping station near the mouth of the Umatilla River.

Background

The Confederated Tribes of the Umatilla Indian Reservation (CTUIR), in a treaty with the United States signed in 1855, ceded over 6,000 square miles to the U.S. and in return were promised protection of their fishing and hunting rights within the reservation then established. They were also guaranteed fishing and hunting "usual and accustomed" sites outside the reservation, plus assistance in the development of a viable economy on the reservation.

At the time of the treaty, and until the early years of this century, there were substantial runs of salmon and steelhead in the Umatilla River within the reservation as well as in the Columbia River and its other tributaries where the Indians normally fished.

Subsequent to the treaty date, virtually all the seasonal water in the Umatilla River was allocated under state law to other uses, primarily irrigation. To facilitate irrigation, the Bureau of Reclamation (BR) assisted in the construction and operation of several water distribution systems within the Umatilla Basin. Thus, we have an agency of the U.S., and the state, becoming parties to subversion of guaranteed Indian treaty rights. The same situation exists due to the later construction of the many dams in the Northwest which are now recognized as a major factor in the demise of historic fish runs. The results are that there is now only a token run of native steelhead left in the Umatilla River, and the Indians' economic, social, and cultural life is severely impacted.

Irrigated agri-business is the largest segment of the Umatilla Basin economy, exceeding $100 million annually. More than 30,000 acres are watered by basin supplies, supporting 700 farm units and providing lifestyle and economic benefits to 2,500 part-time farms and suburban dwellers. Loss of irrigation water would significantly damage this economy, a threat that cannot be tolerated if there is any possible solution. The problem becomes one of reconciliation and compromise, not an easy task with positions as diverse as those held by Indians and irrigators.

In 1982, the CTUIR and the Oregon Department of Fish and Wildlife (ODF&W) asked BR to investigate possible solutions, and the Umatilla Basin Project Steering Committee (UBPSC) was formed to provide objective leadership and to mediate differences. Without these efforts, there would have been expensive and divisive litigation that would have polarized our community and decimated our economy. But, during these four years, the BR has produced a plan that will restore fish runs to the river and at the same time protect the irrigated economy. Endless discussion has fostered an understanding and trust that is a rarity in today's confrontational environment. Both sides have exhibited remarkable restraint and now sincerely respect each others' objectives and positions. However, without continued tangible progress toward our goals, the restraint becomes tenuous and the spectre of litigation becomes more real.

CTUIR and ODF&W began releasing juvenile salmonids in the Umatilla River in 1982. A small adult return occurred in 1985 and a significantly larger return is expected in 1986 and thereafter. The Northwest Power Planning Council

(NPPC) has made fishery enhancement and reparations one of its principle objectives, with the result that Bonneville Power Administration has committed substantial portions of rate payer funds to the program. BPA has financed spawning and rearing installations and channel improvements that are now complete, and is in the final planning and design phase of improvements to passage and screening facilities at several river diversions. These activities will significantly improve fish passage when there is sufficient flow in the river. But unfortunately, during the critical months of May and June when juveniles are moving downstream, and in September and October when adults are returning, flows in the river are at their lowest due to withdrawals for irrigation. To realize the full benefits of the investment by BPA rate payers and others, we must have more water in the Umatilla River.

The BR plan, which has been approved by all effected parties, is a water exchange project. Water from the Columbia River would be supplied to three irrigation districts which, in return, would give up part of their legal rights to upstream storage and natural flows in the Umatilla River. The project can be phased, with the first and smallest phase being the most critical. This would be a small pumping station near the mouth of the river, estimated to cost $4 million, which would solve the fish passage problems at the most critical barrier. BR's current schedule would provide planning and design of this facility over a four year period with construction no earlier than 1990. We cannot live with this schedule and keep all parties in their present cooperative attitudes.

To date, irrigators have adjusted their fall schedules whenever possible in an attempt to leave some additional flows in the river. And CTUIR and ODF&W have made plans to implement a trap and haul program to transport fish upstream. But, both of these programs are expensive, only partially effective, and not sustainable over an extended period of time. In jeopardy are the benefits of the investments in several years of fish stocking and the physical improvements sponsored by NPPC and BPA.

The critical groundwater problems in the Umatilla Basin cannot be divorced from the surface flows in the Basin. The excessive winter and early spring runoff in the Umatilla River and its tributaries offers the opportunity to enhance the total usable basin water supply. Natural flow control, above and below ground storage, and surface water exchange are all interrelated and viable alternatives. There are private parties ready to construct storage facilities, but their effects on other users must be investigated and all efforts must be coordinated. Private surface storage and shallow acquifer recharge would relieve the critical irrigation season demand for surface water and natural groundwater.

Our request for these small increases in BR's FY 1987 budget would advance the time schedule by two years. This would clearly demonstrate to all parties that their remarkable cooperative efforts of the past four years have not been in vain. And it would give them the incentive to endure another year or two of frustrating and makeshift solutions to a large problem that can be so easily solved. Without such incentive, cooperation will disappear and litigation will become the only remaining answer.

We have, in hand, many written endorsements of the Umatilla Basin Project, a cross section of which are enclosed. As yet, no opposition has appeared. We believe it is rare to have an undertaking like this with no losers, and, in fact, all winners.

We are sending, under separate cover, 15 copies of this letter and attachments for distribution to committee members.

January 1986

UMATILLA BASIN PROJECT, OREGON

In response to a congressional directive, the Bureau of Reclamation has worked with the Confederated Tribes of the Umatilla Indian Reservation, Umatilla Project irrigation districts, the Umatilla River Basin Project Steering Committee, and others to formulate a plan that will help restore the Umatilla River anadromous fishery and assure a continuing supply of water for basin irrigators.

A Planning Report/Draft Environmental Statement describing the project and its engineering, economic, environmental and social aspects has been completed and will be available for public and agency review by April 1986. The review period will extend over a three-month period, during which public hearings on the adequacy of the environmental statement will be held, and at the conclusion of this period a final reporting document will be completed. The final reporting package will serve as the basis of congressional consideration of construction authorization.

The plan recommended for implementation includes a major pumping complex on the Columbia River, smaller pumping facilities near the mouth of the Umatilla River, and fish passage and screen improvements at several irrigation diversions. The pumping plants would supply irrigators with some of their water so that flows now diverted from the Umatilla River could remain in the river to enhance conditions for salmon and steelhead migration, spawning and rearing. Irrigators would receive a water supply at least equal to their present supplies. The flow and fishway improvements would result in an increased spawning escapement of about 10,600 fall chinook and lesser numbers of spring chinook and steelhead. Sport, commercial and Indian fisheries would all substantially benefit. In December 1985, the State of Oregon adopted minimum streamflows for the Umatilla River; these are consistent with the flow recommendations incorporated in Reclamation's project.

Reclamation's plan is part of a comprehensive basinwide program to restore the Umatilla River anadromous fishery. Approximately $15 million of Umatilla basin fish passage and production facilities have been approved for funding in the Northwest Power Planning Council's fish and wildlife program. In addition, other local contributions have been made, including substantial investments by the Oregon Department of Fish and Wildlife. To date approximately $1.7 million of nonfederal funds have been expended and additional projects with a total cost of approximately $5-6 million are in the final design stage.

The recommended plan can be phase developed. The first phase would consist of rehabilitation of existing West Extension Irrigation District pumping facilities near the mouth of the Umatilla River and construction of a new pumping plant in the same general area. These pumping facilities would have a combined capacity of about 180 cubic feet per second and would provide immediate improvement in Umatilla River flows upstream to Three Mile Falls Diversion Dam. The first phase facilities would pump Columbia River water into a West Extension Irrigation District canal so that water now diverted at Three Mile Falls Diversion Dam could remain in the Umatilla River. These flow improvements in conjunction with recently completed river channel modifications below the diversion dam and planned fishway improvements at the diversion dam (financed through the Northwest Power Planning Council's fish and wildlife program) would ensure anadromous fish passage to the Three Mile Falls diversion and facilitate development of productive tribal and nontribal fisheries.

The first phase pumping facilities would cost about $4.2 million to construct and have an annual operation, maintenance, replacement, and power wheeling cost of about $163,000. The average annual pumping power requirement is estimated at 5.2 million kilowatthours. The feasibility study cost estimates for these first phase facilities (as reported in the Planning Report/Draft Environmental Statement) are less than those shown here. The increased costs reflect recent verification studies which recommend rehabilitation and use of existing irrigation district pumps as well as construction of the new pumping facility proposed in the planning report so as to maximize water exchange potentials at Three Mile Falls Diversion Dam. The Umatilla River Basin Project Steering Committee has requested that Congress authorize early construction of the first-phase pumping facilities, and have asked for an initial appropriation of $200,000 of Fiscal Year 1987 funds for Reclamation to begin specification design work.

The second phase development would include the Columbia River pumping plant and related facilities, and fish passage and screen improvements at several irrigation diversions. The cost of constructing these facilities is estimated at about $35 million. Annual operation, maintenance, replacement, and power wheeling costs are estimated at about $254,000. The average annual pumping power requirement for the Columbia River pumping complex is estimated at about 23.8 million kilowatthours.

Reclamation is working with Bonneville Power Administration on a proposal to have project pumping power requirements met by Bonneville as a feature of the Northwest Power Planning Council's fish and wildlife program.

	Small Pumps (First Phase)	Columbia River Pumping Complex (Second Phase)	Total Project
Construction cost	$4.2 million	$35 million	$39.2 million
Annual operation, maintenance, replacement and power wheeling cost	$163,000	$254,000	$417,000
Annual energy (kwhr)	5.2 million	23.8 million	29 million

In a related action, Governor Atiyeh appointed a Umatilla basin Ground Water Task Force in 1985 to review and report on means of reversing the decline of the basin's ground water resources. The task force will report on its findings in spring 1986. Additional storage appears to be needed to provide for conjunctive use of ground and surface waters. Conjunctive use of these resources will be necessary to resolve the ground water crisis and assure a continued, adequate water supply for the basin. Reclamation's recommended Columbia River pumping plan is consistent with future storage development in the basin, and the Planning Report/Draft Environmental Statement will discuss potentials for storage within the basin that were briefly evaluated in the recent study. The Umatilla River Basin Project Steering Committee has requested that Congress appropriate Fiscal Year 1987 funds to permit Reclamation to expand its basin investigation to incorporate possible solutions to the ground water problem. Implementation of the Columbia River pumping plan could proceed concurrently with such an investigation.

BPA-ODF&W PROJECTIONS OF TOTAL FISH BENEFITS RESULTING FROM BOTH BPA FUNDED AND FLOW ENHANCEMENT PROJECTS IN THE UMATILLA BASIN.

	Returns to Umatilla River	Available Downstream and Ocean	Total
Fall Chinook			
Natural	11,214	33,642	44,856
Hatchery	9,997	29,991	39,988
Total	21,211	63,633	84,844
Spring Chinook			
Natural	1,121	1.121	2,242
Hatchery	9,435	9,435	18,870
Total	10,556	10,556	21,112
Steelhead			
Natural	2,722	4,083	6,805
Hatchery	5,400	8,100	13,500
Total	8,122	12,183	20,305
Total-all fish	39,889	86,372	126,261

COST SHARING CREDITS

Projects Completed

Bonifer Springs rearing	- BPA	$ 90,000
Minthorne Springs rearing	- BPA	285,000
3 Mile channel improvements	- BPA	350,000
Office expense appropriation	- Oregon State	50,000

Design

3 Mile passage improvements	- BPA	$ 3,150,000
Upstream habitat - Tribes, USFS, ODFW (10 year program)		3,500,000

Planning

Passage improvements, other diversions	- BPA, BR	$ 3,456,000
Trap and Truck facility	- BPA	270,000
Irrigon Steelhead hatchery	- BPA	3,000,000

Other Unquantified Contributions

Private land donations - Bonifer and Minthorne sites
UPRR - Transport fish and supplies
ODFW - Juvenile fish stocking
Irrigation districts - Operational changes
Oregon Water Resources Commission - Policy changes

TOTAL $14,151,000

Resolution No. 85-74

CERTIFICATE

The undersigned, Elwood H. Patawa and Jay Minthorn, hereby certify that they are the Chairman and Secretary, respectively, of the Board of Trustees of the Confederated Tribes of the Umatilla Indian Reservation in Oregon, that at a duly called and regular held meeting of said Board at the Nicht-Yow-Way Community Center, Pendleton, Oregon, on __September 18_____, 1985, a quorum of said Board was present and the following Resolution was regularly moved, seconded and adopted by a vote of __6__, __0__, __0__, abstained.

RESOLUTION

WHEREAS, anadromous salmon and steelhead are integral to the social, economic, and cultural well-being of the people of the Confederated Tribes of the Umatilla Indian Reservation; AND

WHEREAS, the Treaty of 1855 between the U.S. and the Cayuse, Umatilla, and Walla Walla Tribes provides for tribal rights to fish at usual and accustomed fishing sites on the Umatilla River off the Reservation and the exclusive right to fish on the Reservation; AND

WHEREAS, the Board of Trustees of the Confederated Tribes of the Umatilla Indian Reservation feels the protection of these fishing rights is a top priority; AND

WHEREAS, non-Indian irrigation development has been the major factor in the loss of anadromous fish within the Umatilla River Basin; AND

WHEREAS, the Tribes' goal is to re-establish and enhance anadromous fish runs to the Umatilla River Basin and the Reservation for utilization by members of the Confederated Tribes of the Umatilla Indian Reservation; AND

WHEREAS, the Bureau of Reclamation, in cooperation with the Tribes and non-tribal water interests in the basin, has evaluated alternative means of mitigating the conflict between non-tribal water use and the tribes' treaty rights to fish; AND

WHEREAS, a pumping project that would exchange water from the Columbia River for Umatilla River flows and water stored in McKay Reservoir, and which would include pumps located near the mouth of the Umatilla River and Lake Wallula, fish passage improvements at Umatilla River diversions, with a management process to insure achievement of project goals, appears to be the most practical near-term means of substantially addressing the Tribes' fish goals and treaty right to fish in the Umatilla River Basin, AND

WHEREAS, the proposed water exchange concept does not address future on-reservation, domestic, municipal, agricultural and other economic development water needs nor does it address non-tribal water needs in the Umatilla River Basin, NOW THEREFORE BE IT

RESOLVED 1. That the Board of Trustees of the Confederated Tribes of the Umatilla Indian Reservation hereby endorses and supports adoption of the Columbia River pumping complex/water exchange concept as the "Recommended Plan" for congressional authorization and for advanced planning by the Bureau of Reclamation;

2. That the pumping complex include for immediate implementation, pumping facilities which would allow exchange of Columbia River water for Umatilla River flows diverted by West Extension Irrigation District at Three Mile Dam; AND

3. The Board of Trustees of the Confederated Tribes of the Umatilla Indian Reservation feels it is essential that concurrent with advanced planning and implementation of the Columbia River pumping complex/water exchange, the Bureau of Reclamation - in conjunction with relevant tribal and non-tribal entities - proceed to investigate upstream storage potential and other means of addressing the Umatilla Basin's non-fish water needs on and off reservation.

AND that said Resolution has not been modified, amended, or repealed and is still in full force and effect.

DATED this 18th day of September, 1985.

ATTEST:

Elwood H. Patawa

Elwood H. Patawa, Chairman
Board of Trustees

Rod Cowapoo V.P.

Jay R. Minthorn, Secretary
Board of Trustees

STATEMENT OF OREGON WATER RESOURCES DEPARTMENT

The Oregon Water Policy Review Board supports the continuation of the Bureau of Reclamation's Umatilla Basin Project. This investigation has brought together diverse interests in the search for a solution of basin problems.

The Umatilla River is essential to extensive agricultural production in eastern Oregon. Natural shortages of surface water, however, have been a limiting factor since the turn of the century and ground water supplies are not adequate to maintain agricultural production. Anadromous fish runs throughout the Columbia Basin have been dramatically impacted reflecting the effects of hydroelectric projects, depletion of streamflow and natural low-flow conditions.

The Bureau of Reclamation, Confederated Tribes of the Umatilla Reservation and the local advisory committee, with the assistance of other federal and state agencies, have worked hard to find a method of meeting present irrigation needs and realizing the fishery potential. The state is funding support of local participation in the Bureau planning process. A major effort in fisheries enhancement is already underway through the Columbia River Basin Fish and Wildlife Program of the Northwest Power Planning Council with funding through the Bonneville Power Administration. Those expenditures alone will not achieve the full fishery potential of the basin until the instream flow problems are also resolved.

The restoration of fish runs and reliable summer flows in the Umatilla River will benefit the local area, the tribes and the State of Oregon. If the project produces potential for expanding irrigated acreage, or conserving irrigation supplies, it could provide additional benefit to the economy. There are few options for water development at the local level with the potential to serve both instream and out-of-stream needs.

The Water Policy Review Board urges the House Appropriations Subcommittee on Water and Power Resources to fund the continuation of this important effort so project authorization and appropriation proposal can be placed before Congress in the near future.

LETTER FROM GREATER HERMISTON (OR) CHAMBER OF COMMERCE

OCTOBER 7, 1985.

STEERING COMMITTEE,
Umatilla Basin Project,
c/o Hadley Akins,
P.O. Box 909,
Pendleton, OR.

GENTLEMEN: We, the officers and directors of the Greater Hermiston Chamber of Commerce, fully support your efforts to bring the Umatilla Basin Project to fruition. We recognize that water is our most important natural resource in the semi-arid environment of the west end of Umatilla County. We firmly believe that the project is an essential step in preserving and augmenting that resource.

As we understand the project, it would provide for streamflows that will support the migration of anadromous fish in the Umatilla River, restoring meaning to the Treaty of 1855 with the Confederated Tribes of the Umatilla Indian Reservation. By so doing it should remove the cloud of potential litigation and protect the water rights of local users whose livelihoods are dependent upon those rights for irrigation. Therefore, unlike most federal water projects which benefit new users, the project would restore and protect previously recognized rights. We believe that sets it apart from projects which would expand or create anew water benefits for those entities not previously entitled to such benefits. We also note that despite decades of study, there have been no physical improvements to the Umatilla River and its tributaries for half a century, while other river basins have benefited greatly from tax-supported projects.

Although the project does not directly address the issue of substitution of surface water for groundwater, it could be a start in that direction. Most cities, industries, and many farms and family dwellings in this area are dependent upon groundwater, the future of which is uncertain. Therefore, any augmentation or stabilization of the Umatilla Basin's total water resources should be vigorously pursued.

Our concern for the future of our water supply is such that we strongly support the participation of your committee and the service as chairman of the Umatilla Basin Groundwater Task Force of our executive director, Chuck Norris.

Should you take your case for approval of the Umatilla Basin Project to any or all of Oregon's U.S. Congressional delegation, we ask that our support, reflected herein, be a part of that presentation.

Sincerely,

GREATER HERMISTON CHAMBER OF COMMERCE.

LETTER FROM THE LEAGUE OF WOMEN VOTERS OF UMATILLA COUNTY

JUNE 14, 1985.

UMATILLA RIVER PROJECT COMMITTEE,
Hadley Akins,
P.O. Box 909,
Pendleton, OR

SIR: The League of Women Voters of Umatilla County strongly endorses the current Bureau of Reclamation plan for development and improvement of the Umatilla Basin water resources. The plan's intent is to restore a large part of the historic runs of anadromous fish in the Umatilla River system, and at the same time preserve irrigated agriculture upon which our economy is so dependent. This support is in line with the League of Women Voters of Oregon policy statement on water resources. It endorses minimum stream flows to preserve fish runs, but also encourages multiple use.

RESOLUTION

The purpose of this resolution is to state East Central Oregon Association of Counties' support for the Umatilla Basin Project.

WHEREAS, there is an increasing concern over the availability and use of local water resources; and

WHEREAS, there is a need to have all water resource users work in a cooperative manner to seek a common long-term resolution to meet the future need for multiple use; and

WHEREAS, the Umatilla River Basin Project provides a needed forum for local irrigators, irrigation districts, the Umatilla Indian Reservation, Bureau of Reclamation, and BPA to formulate a plan to deal with the needs and concerns of users;

NOW, THEREFORE, BE IT RESOLVED that the East Central Oregon Association of Counties supports the Umatilla River Basin Project. This project will offer a unique experience in resolving a very complicated and explosive issue over water use and allocation among a variety of users. It is our hope that the knowledge derived from this process will lend itself to other water resource issues that are arising throughout the entire region. ECOAC feels strongly that multiple use management for all natural resources provides the best benefit to all affected parties versus single-use. To this end, the Umatilla Basin project looks to deal with fish, recreation, irrigation, and other potential users all at one time to determine viable options for all of these users. Because this project is working towards a solution to such a growing regional concern over water resources, ECOAC supports its implementation.

ADOPTED this 3rd day of April, 1986.

LETTER FROM THE PENDLETON (OR) CHAMBER OF COMMERCE

UMATILLA BASIN PROJECT STEERING COMMITTEE,
c/o Hadley Akins,
P.O. Box 909,
Pendleton, OR.

The Pendleton Chamber of Commerce of Pendleton, OR, strongly endorses the current Bureau of Reclamation plan for development and improvement of the Umatilla Basin water resource. In our judgment, it will restore a large part of the historic runs of anadromous fish in the Umatilla River system, and at the same time preserve irrigated agriculture, upon which our economy is so dependent.

We believe completion of the entire project is necessary to achieve the results necessary to prevent polarization of our citizens and to maintain at least the present level of our economy.

We hereby pledge $500 to help defray the expenses of pursuing the Project.

PENDLETON CHAMBER OF COMMERCE.

LETTER FROM STANFIELD IRRIGATION DISTRICT, OREGON

Re Umatilla Basin Project

Mr. HADLEY AKINS,
Umatilla Basin Project Steering Committee,
P.O. Box 909,
Pendleton, OR

DEAR HADLEY: For the last several years this district has been working closely with the Bureau of Reclamation in connection with the above project. We have invested a substantial amount of money and time in working with the Bureau toward a satisfactory resolution of the water problems of the basin. We continue to support the work which the Bureau is doing and we encourage them to continue with it.

On a number of occasions we have informed the Bureau of those things which we feel the District will need to achieve as part of the project. We will continue to press for those goals and we are hopeful that they will be contained in the project as finally constructed. In the meantime, be assured of our continued support and cooperation in your efforts and those of the Bureau.

Sincerely,

WILLIAM I. PORFILY,
Manager.

LETTER FROM THE TEEL IRRIGATION DISTRICT

NOVEMBER 6, 1985.

UMATILLA RIVER BASIN STEERING COMMITTEE,
P.O. Box 909,
Pendleton, OR.

The Teel Irrigation District and several individuals that own land within the district have permits and pending applications for withdrawal of water from the Umatilla River. The district and these individuals have in the past stated to the steering committee, the Bureau of Reclamation, and the confederated tribes they could not withdraw water from the river if the withdrawal would jeopardize the fish enhancement project proposed for restablishment of fish runs in the Umatilla River. The district and the individuals involved have not changed their position and will cooperate to the best of their ability to see that their permits will not jeopardize the proposed fish enhancement project as presently visualized or as it may be proposed in the future.

Sincerely yours,

CHESTER PRIOR,
President.

LETTER FROM THE WESTLAND IRRIGATION DISTRICT

Re Umatilla Basin Project

Mr. HADLEY ATKINS,
Umatilla Basin Project Steering Committee,
P.O. Box 909,
Pendleton, OR.

DEAR HADLEY: For the last several years this district has been working closely with the Bureau of Reclamation in connection with the above project. We have invested a substantial amount of money and time in working with the Bureau toward a satisfactory resolution of the water problems of the basin. We continue to support the work which the Bureau is doing and we encourage them to continue with it.

On a number of occasions we have informed the Bureau of those things which we feel the District will need to achieve as part of the project. We will continue to press for those goals and we are hopeful that they will be contained in the project as finally constructed. In the meantime, be assured of our continued support and cooperation in your efforts and those of the Bureau.

Sincerely,

WILLIAM I. PORFILY,
Manager.

LETTER FROM THE UMATILLA COUNTY CATTLEMEN'S ASSOCIATION

UMATILLA BASIN PROJECT STEERING COMMITTEE,
P.O. Box 909,
Pendleton, OR.

The Umatilla County Cattlemen's Association of 13 SW Nye, Pendleton, OR, strongly endorses the current Bureau of Reclamation plan for development and improvement of the Umatilla Basin water resource. In our judgment, it will restore a large part of the historic runs of anadromous fish in the Umatilla River system, and at the same time preserve irrigated agriculture, upon which our economy is so dependent.

We believe completion of the entire project is necessary to achieve the results necessary to prevent polarization of our citizens and to maintain at least the present level of our economy.

LETTER FROM THE HERMISTON IRRIGATION DISTRICT

Re Umatilla Basin Project

Mr. HADLEY ATKINS,
Umatilla Basin Project Steering Committee,
P.O. Box 909,
Pendleton, OR.

DEAR HADLEY: For the last several years this district has been working closely with the Bureau of Reclamation in connection with the above project. We have invested a substantial amount of money and time in working with the Bureau toward a satisfactory resolution of the water problems of the basin. We continue to support the work which the Bureau is doing and we encourage them to continue with it.

On a number of occasions we have informed the Bureau of those things which we feel the District will need to achieve as part of the project. We will continue to press for those goals and we are hopeful that they will be contained in the project as finally constructed. In the meantime, be assured of our continued support and cooperation in your efforts and those of the Bureau.

Sincerely,

JIMMIE K. BEVAN,
Manager.

LETTER FROM THE COUNTY LINE WATER IMPROVEMENT DISTRICT

Mr. HADLEY ATKINS,
Umatilla River Basin Project,
P.O. Box 909,
Pendleton, OR.

DEAR HADLEY: The members of the County Line Water Improvement District have agreed to support the Umatilla River Basin Project. We will give the project our total support and participation.

Sincerely,

TYLER HANSELL,
President.

CIVILIAN NUCLEAR REACTOR PROGRAM

STATEMENT OF JOSEPH S. ARMIJO, MANAGER, NUCLEAR SYSTEMS TECHNOLOGY OPERATION, GENERAL ELECTRIC CO.

Chairman HATFIELD. At this time, I would like to invite Dr. Armijo, manager of the Nuclear Systems Technical Operation, to come forward.

Dr. Armijo, we have your entire statement that we will place in the record as a part of our material that we will be reviewing. If you will please highlight it, I would appreciate hearing from you.

Mr. ARMIJO. Good morning, Senator Hatfield, Senator Burdick. My name is Sam Armijo, and I am manager of General Electric's Nuclear Systems Technology Operation.

I want to thank the subcommittee for the opportunity to participate in these important hearings. And my remarks will be focused on DOE's civilian reactor program.

We believe there are two principal goals to be achieved by the program. First and foremost is the assurance of energy security for the United States for the long term. And second, the expeditious revival of the U.S. nuclear option.

Achievement of the short-term goal in our opinion requires the use of the light-water reactor technology, and the long-term goal can best be achieved with liquid metal reactor technology and the breeder. The light water reactor and the liquid metal reactor goals are complementary in our opinion and both goals should be pursued.

I have covered the rationale and approach to these goals in my written statement and I thank you for placing it in the record.

Today, I will limit my remarks to two programs that can provide major near-term progress toward meeting these goals.

LWR SAFETY AND LICENSING PROGRAM

First, I want to voice our support for the light water reactor or LWR Safety and Licensing Program that the Department of Energy, in conjunction with EPRI and U.S. industry, has proposed for fiscal year 1987. An aggressive effort for licensing and certification of advanced light water reactors can achieve results that reopen the U.S. nuclear option within 5 years. We and others have made great progress on advanced light water reactor designs in cooperation with overseas associates and these designs are available for this study.

LIQUID METAL REACTOR RESEARCH

Now, I would like to address the liquid metal reactor or LMR program. Currently, we at GE are under contract with the Department of Energy for a comprehensive assessment of our modular liquid metal reactor concept which we call PRISM. Rockwell International is pursuing a competing concept. Completion of these 3-year programs was scheduled for fiscal year 1987 with a program cost of $19.3 million. The purpose of this effort is to determine if there is a technically and economically realistic solution to the unfavorable economics and very high demonstration costs of large liquid metal reactor plants.

We believe the results of the DOE innovative liquid metal reactor program are vital for effective guidance of the program and urge the committee to provide the contract funds for completion as planned.

This effort should receive top priority in the LMR and breeder program since it is critical to the commercial application of the program's substantial technology investment and output.

We are encouraged with the progress on the modular reactor concept. We believe this technology offers a unique potential for a fully self-protecting liquid metal reactor.

Recent tests at the EBR–2 reactor in Idaho have demonstrated the technical feasibility of this passive safety approach which allows for walk-away safe powerplants.

Since our concept is small, it can also be tested full scale and at moderate costs and thus provide the basis for major reductions in regulatory constraints to the plant and these constraints, as you know, have contributed to the very costs of large monolithic systems.

With regulatory controls limited to a smaller portion of the plant, the modular liquid metal reactor should have scaling characteristics similar to those found in fossil plants which show only a minor cost penalty with small unit sizes.

Application of standard certified units of this type would greatly reduce utility financing risks and provide the flexibility that economically serve a very wide range of load growth requirements.

While the results to date are promising, they are incomplete and cannot be concluded with the proposed fiscal 1987 funding of $6 million. However, with the originally planned effort, we can deliver technical and economic assessments with sufficient depth to judge how this technology would bear in the marketplace.

We will also be able to present a definitive plan for proceeding toward commercialization.

We believe these conclusions are necessary to commercially exploit and continue our substantial LMR and breeder technology investment, and to regain our Nation's leadership position in the application of civilian nuclear power.

Thank you, and I would be happy to answer any questions the committee may have.

[The statement follows:]

STATEMENT OF JOSEPH S. ARMIJO, MANAGER, NUCLEAR SYSTEMS TECHNOLOGY OPERATION, GENERAL ELECTRIC CO.

My name is Joseph S. Armijo. I am Manager of General Electric's Nuclear Systems Technology Operation. I want to thank the subcommittee for your invitation to participate in these important hearings and will direct my statement to possible developments that could aid nuclear power in the future in the U.S.

PRINCIPAL GOALS

We believe there are two principal goals to be addressed in the DOE Civilian Reactor Program.

1. A focused program that assures U.S. energy security for the long term, and to this end
2. Revival of the U.S. nuclear option on an expeditious basis.

A favorable solution to the short term goal implies the use of the light water reactor.

The long term goal can be satisfied with Liquid Metal Reactor (LMR) technology and the breeder. The LWR and LMR goals are complimentary. A resumption of U.S. LWR orders will act as a constraint on fossil fuel prices and increase the commitment of uranium resources. Development of a U.S. LMR option will in the long run limit potential uranium price increases resulting from the expanded use of LWRs while providing a means for regaining U.S. nuclear leadership and influence in international nuclear policy. Both goals can and should be pursued.

For the future we should also consider the High Temperature Gas Reactor (HTGR) technology for the ultimate purpose of providing an alternative to the fossil production of industrial process heat, thus allowing nuclear power to further contribute to the national well being.

PROCESS AND RESPONSIBILITIES

While there are many specific constraints to a viable U.S. nuclear option the most significant are institutional factors beyond the control of the private sector. To be more specific, the existing U.S. regulatory practices and procedures controlling the environment for construction of nuclear plants make their schedules too long, their cost too high, and their unpredicability too great.

General Electric supports legislative reforms in the licensing of nuclear plants. We support one step licensing, limits to backfitting and pre-approval of sites. To be successful, these reforms require a standardized design entailing very large investments before it is clear that an environment necessary for successful nuclear power deployment has returned.

We believe the Federal Government through the DOE should fulfill its responsibility in the current nuclear hiatus by providing a program that assures that nuclear power plants can be designed, constructed and operated in a reasonable and predictable environment in the U.S. Independent of the technology, key to this assurance is the final NRC certification of a plant design. The DOE program should be directed towards developing and proving designs with features that can reduce regulatory scope over the plant design, construction and operation. For this effort to be successful each reactor design effort must define the approach to meeting regulatory requirements that will allow sufficient freedom in the plant's construction and operation to control the excessive costs associated with recent U.S. nuclear plants. It must also define developments, analyses and demonstrations that will be necessary to achieve these goals. The DOE should carry out the specified program, at least to the point where there is NRC certification and an assurance of a reasonable U.S. environment to accept the risk of proceeding with new nuclear projects. Other institutional constraints such as financing and public acceptance will follow if we can gain control over the cost and schedules of our plants.

Proposed LWR Programs

We believe that the Government can help restore the LWR option in the U.S. by concentrating support in two areas - licensing of the Advanced LWRs and advancement of the mid-size LWR program.

Current U.S. licensing has large uncertainties for utilities that might be contemplating nuclear additions and our own experience with the GE Standard Safety Analysis Report (GESSAR) has not been good. We have been in favor of standardization from the beginning, and were the first to pursue a license for a standard BWR in 1973. However, continued changes in NRC rules leave us 13 years later still pursuing certification, after the expenditure of tens of millions of dollars in the licensing process alone. Our experience is by no means unique.

Government sponsorship of NRC certification of Advanced LWR designs will provide the proof that institutional reform has really taken place and restore confidence in the licensing process. The process we see is as follows:

- An Electric Power Research Institute (EPRI) requirements program is in progress and will provide the Advanced LWR requirements.
- Industry will provide the Advanced LWR designs which meet those requirements. In our case, the ABWR design developed jointly by GE and its Japanese associates represents an investment in excess of $200 million.
- The Government provides a program that results in NRC certification. This includes both final design approval and the public hearing process leading to certification. It also includes any supporting effort that may be required to realize a rational certification through these processes.

A second way in which the Government can help the LWR option is through support of the mid-size LWR program. If successful, this program will permit economic nuclear deployment in smaller increments therefore at lower financial risks. The EPRI has initiated a modest conceptual study of mid-size LWRs with the primary objective of being cost-competitive with coal; employing passive safety features to the maximum extent possible, thus minimizing the safety envelope for review. This is viewed as a way to overcome the traditional scaling penalties associated with the smaller nuclear unit sizes. We are very encouraged at the results to date, which may be applicable not only in the U.S. and may also permit us to exercise leadership abroad. We believe a modest test and assessment program is appropriate to determine the potential of the mid-size concept. How industry would proceed beyond this to a final design and certification will depend not only on the test results but also on U.S. need and the environment for nuclear at the conclusion of the mid-size concept assessment.

The type of program I have outlined can be completed and produce definitive results within a five year period and I believe could go far toward meeting the critical goal of reviving the nuclear option in the United States.

Advanced Reactors

The Advanced Reactor Subpanel Report of the Energy Resources Advisory Board (ERAB) has recommended three key goals for advanced reactors.

1. Timely development of an efficient and economically superior advanced reactor system for application on the nation's electric power systems, building on the vast base of LWR experience and the knowledge gained from 40 years of applied R&D, both here and overseas.

2. Maintenance of U.S. influence in international policy-making concerning civilian nuclear power and non-proliferation by remaining in the vanguard of advanced reactor R&D and sharing on appropriate bases the generic results with the rest of the world.

3. Maintenance of the U.S. as a competitive supplier of nuclear power systems to the world markets by assisting the U.S. industrial community in development of superior proprietary designs, products, and skills through transfer of technology from its advanced R&D program.

Proceeding toward these goals provides an opportunity for the U.S. to act so as to help maintain our non-proliferation objectives while helping our friends and becoming leaders in the attempt to develop an energy secure world. The opportunity arises because present breeder development programs outside the United States may be going down the wrong track. The developmental breeders already built and being built today are technically successful, but are so costly as to be economically impractical. The plans abroad are to serially build additional large multi-billion dollar plants with the hope that the experience gained will ultimately lead to an economically practical plant. But each plant costs billions of dollars and takes of the order of a decade to put into operation. It is not clear that the process will converge. Indeed, in Japan high costs have led to a slowdown in the program, and in Europe where the high costs have dictated a multi-nation approach it has been difficult to reach agreements on the next proposed plant.

In recognition of this situation the Department of Energy program has been investigating a new approach to breeder development. The idea is to look at small sized units of the order of 100 to 300 megawatts which can be joined in arrays to form large plants. Because of their small size the "modular" units can have the advantage of shop fabrication. In addition, the small size permits fail safe emergency cooling systems which are independent of the balance of plant outside of the modules. The balance of plant can therefore be constructed to high quality industrial standards, rather than to the astronomically expensive nuclear safety standards. Further, because of the small size a demonstration module is relatively inexpensive to build. Once it is built, tested, and licensed as a result of the demonstration test, the module becomes the actual building block for the commercial plants.

We are encouraged with the progress of the modular reactor concept. We believe this technology offers a unique potential for a fully self protecting reactor assembly. This in turn can provide the basis for major reduction of institutional constraints that have led to the current high costs of the large monolithic systems. With regulatory controls limited to a smaller portion of the plant, nuclear plants should have scaling factors more like fossil plants which show only a minor cost penalty with small capacity levels. This would then open the opportunity for unit sizes that greatly reduce financial risks and provide the utilities with the ability to economically meet their load growth patterns.

In view of this promise, we believe the modular reactor development should be maintained and expanded when appropriate. Limited studies will never provide the degree of confidence necessary to proceed with commercialization of this concept. Only with a final design and regulatory certification will it be possible to assure such a concept can realize their full potential.

With future constraints on funding expected we believe it important to proceed with such a focused advanced reactor program. If there is any one lesson we should have learned from our past nuclear experience, it is that basic technology without the generally larger and higher risk effort of integration into specific proven designs does not lead to the development of viable plants to meet our electrical needs. Therefore the development programs should concentrate on developing economic plant designs, with the technology programs providing only the critical information necessary to carry out the design.

Our planning shows development, design, construction and operation of a modular reactor assembly test could be completed in about 8 years for a total cost of about 600 million dollars. This effort would provide the basis for a final regulatory certification of the assembly. The program would be expected to prove the reactor assembly's self-protection features and provide the public and political confidence that will be necessary for limiting regulatory control to the reactor assembly and fuel handling facilities of the plant. It would also provide the confidence that plant cost estimates are predictable and can be reasonably assured.

There are, of course, risks in such a venture. As indicated earlier, the economics of the modular approaches are primarily based on constructing a standardized modular plant with practices and procedures more like a fossil plant than those of today's nuclear plants. Studies by our Power Reactor Inherently Safe Module (PRISM) team have shown the cost of vendor supplied components and materials are essentially equal for the average U.S. nuclear and coal plant. However, the site field labor for the average nuclear plant exceeds that for a coal plant by a factor of two and the indirect site labor costs are five times higher. While standardization and experience can reduce the differences, less regulatory control of the construction process is necessary to reduce the cost of the construction process to a level that would make the modular system fully competitive. We do not believe studies or technology developments, regardless of how promising, can assure this one basic goal can be realized but it may be possible to gain this assurance through a successful full scale reactor assembly test. Therefore, we propose that the commitment be made to proceed with a reactor test of the most promising concept and reach a conclusion through final regulatory certification.

International Cooperation

We believe it is possible to gain overseas participation in the development and proof of our modular innovative concepts. The overseas development of new large monolithic systems has proven to be extremely expensive and none has proven to be economically competitive. Therefore we have found a growing overseas interest in our PRISM concept. A selection and firm commitment to a reactor test could bring about a major overseas participation in such projects. We have in the past enjoyed overseas participation in our developments and can likely regain this advantage with a firm commitment to a promising concept.

I should also emphasize the great importance of such a program to our foreign policy non-proliferation objectives. We presently have the self inflicted situation of trying to address the proliferation issue by threatening an embargo on export of U.S. technology to non-cooperating nations, while at the same time slowing the progress of nuclear energy in this country. There is presently a worldwide surplus of supply capacity in every phase of nuclear power. What is it that we will embargo if present trends continue and we lose technological leadership? The suggested program described above can lead not only to increased well-being in the U.S. due to assurance of energy supply; but also to worldwide well-being as the U.S. is able to maintain its constructive nuclear technological leadership on an international basis; and to influence developments in ways which reduce the threat of spread of nuclear weapons.

CONCLUSIONS

Proceeding with a focused program toward revival of the LWR option should be our highest priority. In a competitive world the U.S. is one of the few countries which denies itself the use of low cost nuclear power. The need is evident. A nuclear option provides competition and a choice for the utilities when they begin replacing their aging capacity and satisfying the current growth in demand. The action is clear. Prove through a binding regulatory certification that our advanced LWR plants can be constructed and operated in the United States under conditions that permit standardization and reduces the uncertainty associated with our current plants. The cost is modest. New final advanced designs exist through our cooperative efforts with our overseas partners so we can proceed directly with their certification. And we have in place, the industrial infrastructure necessary to provide this option when it is clear we have an environment more conducive to the acceptance of nuclear power.

Proceeding with a balanced advanced reactors program will likely require some critical and difficult decisions. A comprehensive program would include continuation of our base technology developments and proceeding toward the final design and certification of our current innovative reactor concepts. For the LMR, it also includes closing the fuel cycle if we are to realize the full potential of this technology. We believe it would be in the nation's best interest to carry out a comprehensive program, but the current FY86 budget is not sufficient to carry out such a program and the proposed FY87 budget appears to demand further limits to the advanced reactors program.

We now face the possibility that maintaining the expensive technology and fuel development programs and facilities will leave the Advanced Reactors Program with insufficient resources to carry out the most important mission, advanced reactor development. Therefore, we urge the Committee to address this issue and provide guidance on priorities for the advanced reactor program. While we recognize the value of our base technology developments, we do not believe fuel developments deserve our top priority. We, as well as other countries, have sufficient oxide fuel operating experience today. All countries, however, are struggling to reduce plant costs. This is where the problem is, this is where the U.S. program has a lead, and this is where we should focus our resources.

CHANGE IN BUDGET PRIORITIES

Senator BURDICK [presiding]. Thank you. There is a shift in the nuclear R&D program proposed in the fiscal year 1987 budget. The budget proposes the reduction in the civilian advanced reactor area and an increase in the military space reactor. Do you support this approach?

Mr. ARMIJO. We believe that the civilian reactor program and military reactor program should be kept separate. If there is a defense need that the funds for those programs should be brought forward with a separate base and that the civilian reactor program should not be taxed to fund the military program.

Senator BURDICK. Thank you very much.

Mr. ARMIJO. Thank you, sir.

PAPILLION CREEK AND TRIBUTARIES, NEBRASKA

Senator BURDICK. Our next witness will be Mr. Mel Hoier, chairman of the Papillion Valley Preservation Association. I understand he is going to submit his statement in writing.

Without objection, his full statement will be made part of the hearing record.

[The statement follows:]

STATEMENT OF THE PAPILLION VALLEY PRESERVATION ASSOCIATION, INC.

The Papillion Valley Preservation Association supports the resolution that was adopted by Hal Daub's Papio Watershed Coordinating Committee. This resolution pertains to channel improvement from L Street to West Center Road in Omaha, NE, in lieu of additional dams for flood control along the Papio Watershed.

We feel that this plan would provide almost complete protection for that area of Omaha where the majority of damage would occur and also provide some recreation at a small fraction of the original cost.

We urge your approval and funding for the Papio Watershed Coordinating Committee resolution, a copy of which is attached.

Resolution of
PAPIO WATERSHED COORDINATING COMMITTEE

Regarding the recent study conducted by the Corps of Engineers on flood control in the Papio Basin, the City of Omaha supports the following:

1. Modification of UPRR bridge, including a connecting street from "F" Street north to "C" - "D" Street frontage road in order to access the baseball diamonds and other recreation facilities along the channel.

2. 50-year channel from "L" Street to West Center Road.

3. Full land acquisition and full relocation costs for private and public properties impacted by channel improvements. Land acquisition to include full replacement cost of swimming pool complex and construction of recreation facilities (bikeways, etc.) along the channel.

4. 100% Federal funding of all improvements and modifications.

5. Majority support by the PWCC and initiative in securing this 100% Federal funding.

6. City to continue current flood plain management program regarding development in the floodway and the flood plain.

7. Papio NRD to assume all maintenance responsibilities after the channel work. ~~is done from "L" Street to West Center Road~~.

100% Federal Funding Need:

CORPS Estimate	$5,535,200	
Connecting Street	650,000	
TOTAL	$6,185,200	(1984 dollars)

Properties in Acquisition and Relocation

Swimming Pool
Small Restaurant
Insurance Agency
7-11 Store
Auto Repair
Construction Equipment Building
Body Company

STATEMENT OF THE DOUGLAS COUNTY, NE, BOARD OF COMMISSIONERS

We want to express our support for the resolution that was accepted and approved by the Papio Watershed Coordinating Committee.

We also endorse deauthorization of the remaining dams in the authorized project.

STATEMENT OF BENNINGTON, NE

Our community is located within the Papillion Creek basin. We support the PWCC plan, channel improvement, channel levees and modification of the Union Pacific Railroad bridge.

We also endorse deauthorization of the remaining dams in the authorized project.

STATEMENT OF BLAIR, NE

In 1981, Congressman Hal Daub formed an ad hoc committee of people representing the three counties in the Papillion Creek watershed. We have followed this controversy since the beginning and want to state that we support the resolution that this committee [Papio Watershed Coordinating Committee] has accepted and approved for channel improvement in the city of Omaha, NE.

This resolution pertains to a 50-year channel from L Street to West Center Road on the Big Papio Creek, modification of UPRR bridge, streets and roads for access to recreational facilities along the channel, full land acquisition and relocation costs of public properties, the city of Omaha to continue flood plain management regarding development in floodway and flood plain, and for the Papio NRD to assume all maintenance responsibility after the channel work is done.

The Corps of Engineers estimated cost of this improvement is $6,185,200. When you consider this figure against the figure of $50,000,000-plus—the Corps figures for Dam 3A, another plan that was considered by this committee, that gave little protection to the city because of its distance from the vulnerable area.

We hope that you will support the resolution and we thank you for your time in considering this letter.

STATEMENT OF ELKHORN, NE

We have followed the Papillion Creek Watershed plan for some years. We want to express our support for the resolution that was accepted and approved by Congressman Hal Daub's Papio Watershed Coordinating Committee for channel improvement in Omaha, NE, from L Street to West Center Road on the Big Papillion Creek.

This resolution pertains to modification of UPRR bridge, streets and roads for access to the recreational facilities along the channel, a 50-year channel from L Street to West Center Road, full land acquisition and relocation costs of public properties, the city of Omaha to continue current flood plain management program regarding development in the floodway and the flood plain, and for the Papio NRD to assume all maintenance responsibilities after the channel work is done.

We urge the Appropriations Committee to approve this resolution so this problem can be solved.

STATEMENT OF ERIC L. KNUDSEN, MAYOR, WASHINGTON, NE

As a board member of the Papillion Valley Preservation Association and a member of Congressman Hal Daub's Coordinating Committee, we finally came up with a plan that is a much better and cheaper solution to the flood problems on the Big Papio Creek flowing through Omaha, NE. The plan has been agreed to by all entities involved including the Corps of Engineers in Omaha and Washington, DC.

We in Washington, NE, support the resolution of Congressman Hal Daub's Coordinating Committee and ask that the project be federally funded with work started as soon as possible.

STATEMENT OF ARLINGTON, NE

We hereby support the resolution that was unanimously accepted and approved by Congressman Hal Daub's Papio Watershed Coordinating Committee for channel improvement of the Big Papio Creek from L Street to West Center Road.

This resolution pertains to modification of UPRR bridge, streets and roads for access to the recreational facilities along the channel, a 50-year channel from L Street to West Center Road, full land acquisition and relocation costs of public properties, the city of Omaha to continue current flood plain management program regarding development in the floodway and the flood plain, and for the Papio NRD to assume all maintenance responsibilities after the channel work is done. The estimated cost of this improvement project is $6,185,200—Corps of Engineers figures.

We urge the approval of this resolution because of the benefits for the city of Omaha using channel improvements as opposed to dams above the city which are much more costly and do not give protection from a storm cell below the structures.

STATEMENT OF KENNARD, NE

We have been involved with the controversy concerning the difference of opinion for flood control on the Papillion Creek Project since the beginning. We had high hopes when Congressman Hal Daub formed an ad hoc committee from the three counties involved.

We urge your approval of the resolution that was accepted and approved by the Papio Watershed Coordinating Committee for channel improvement of the Big Papio Creek in Omaha, NE, from L Street to West Center Road.

This resolution consists of a 50-year channel from L Street to West Center Road, modification of UPRR bridge, with roads so there will be an access to recreational facilities along the channel, full land acquisition and relocation costs of public properties, the city to continue current flood plain management regarding development in the floodway and the flood plain, and for the Papio NRD to assume all maintenance responsibility after the channel work is done. The Corps of Engineers' estimated cost for this is $6,185,200.

We urge the approval of this resolution as it has been agreed to by the members of Cogressman Daub's Papio Watershed Coordinating Committee and it is the best solution for the flooding problem in the city of Omaha.

STATEMENT OF WASHINGTON COUNTY (NE) BOARD OF SUPERVISORS

Recently a resolution was approved by Congressman Hal Daub's Papio Watershed Coordinating Committee for channel improvement of the portion of Big Papillion Creek located within the city of Omaha, NE, from L Street to West Center Road. The Washington County Board of Supervisors wishes to go on record in support of this resolution.

Furthermore, the Washington County Board urges 100 percent Federal funding in the amount of $6,185,200 (Corps of Engineers estimate) for the following items needed to accomplish the channel improvement: modification of UPPR bridge, with a connecting street to access recreation facilities adjacent to channel; 50-year channel from L Street to West Center Road; full land acquisition and full relocation costs for private and public properties impacted by channel improvements.

The Washington County Board, as well as the city of Omaha, also support the following: city to continue current flood plain management program regarding flood plain development, and Papio Natural Resources District to assume all maintenance responsibilities after channel work.

Because of the benefits of channel improvements for the city of Omaha as opposed to dams above the city which are much more costly and less effective, the Washington County Board urges immediate approval of Federal funding for this project.

WEB RURAL WATER PROJECT

Senator BURDICK. Senator Abdnor has also submitted the prepared statements of the WEB Water Development Association supporting the WEB project in South Dakota.

That statement will go in the record at this point.

[The statement follows:]

STATEMENT OF THE WEB WATER DEVELOPMENT ASSOCIATION, INC.

Mr. Chairman, and members of the Appropriations Subcommittee on Energy and Water Development. I am Morris Kurle, Chairman of the WEB Water Development Association Inc., which serves as the local sponsor for the construction and operation of the WEB Rural Water Development Project, commonly known as the "WEB Pipeline Project". The WEB Project is a Bureau of Reclamation project being constructed in South Dakota under Public Law 96-355 and Public Law 97-237.

I want to thank the members of this Committee and the entire Congress for the support you have given the WEB Project and South Dakota. After 11 years of effort the benefits of good quality Missouri River water will finally be made available to the first 1,145 farms and 13 towns in Phases I, II, and III of the WEB Project this spring and summer. The WEB Project will correct a water quality problem that has confronted residents of our area since the homestead days of the 1800's when the Dakota Territory was opened for settlement and my ancestors, and others like them, immigrated from Germany, southern Russia, and other countries and turned prairie into farm land and built towns where none existed before. Unless you have lived in an area were water is limited or poor quality it is hard to understand or appreciate how important water is. Lack of qood quality water has limited development of our State from the days when homesteaders caught rain water off of roofs and railroad steam engines rusted out because of poor quality water. On behalf of the residents of the WEB area I want to thank you.

Action Requested

Our request is that the Subcommittee and the full Committee approve and support the line item appropriation for the WEB Pipeline Project recommended by the Administration in the amount of $21,400,000 for Fiscal Year 1987. We are greatful for the recognition and support shown for the Project by the Reagan Administration. The funds are needed to get the first three phases of construction completed and operational and to allow for construction of Phase 4 of the project.

Reallocation

In addition to the FY-87 appropriation, we would respectfully request that the Subcommittee give support to reallocation of additional construction funds to the WEB Project in Fiscal Year 1986, should additional funds not used for other projects become available in the Department of Interior's budget. The WEB Association has six (6) construction contracts designed and ready for construction should any additional funds become available in FY-86. These contracts represent an additional construction expenditure capability of $10,430,000 in FY-86 provided we are given timely notice. The WEB Project has been designed to be constructed in small "Phases" which make it easy to utilize construction funds in any amount and still be able to show immediated water service to customers when the construction of the Phase is completed.

The WEB Pipeline Project was one of the Bureau of Reclamation projects which expended all of the funds that where appropriated and reallocated to it in Fiscal Year 1985. Bid prices on the WEB Project are coming in good and if reallocation funds remain available in the Fiscal Year 1986 budget we feel they could be well spent on the WEB Project.

Project Summary

Construction of the WEB Project will bring good quality domestic water to 3,700 farms and 58 towns and bulk users in South Dakota. The water will be used for human use, livestock, and small industry. Presently towns and farms in the project area rely upon ground water supplies which are poor in quality, are limited in quantity, and are expensive to construct and maintain. A delay in construction and completion of the project will result in countless farms and towns that are signed up for WEB water having to replace or repair ground well water sources at considerable expense.

Adequate funding for the WEB Project will assure early repayment of loan funds by Project users. Under the repayment contract payment begins when the Project is completed and operational. Delay in construction funding would extend and delay the date when repayment would begin.

Construction contracts on Phase I of the Project are over 95% complete and are expected to go into operation in May, 1986. Construction on Phase II of the Project is 85% complete and could be operational as early as July, 1986. Construction in Phase III of the Project is 53% complete and the first users could be served in the Contract 3-2A area as early as September, 1986.

In May, 1986 major project features, including the Pumping Plant, the Water Treatment Plant, the Main Storage Reservoir, 21 miles of Main Transmission Pipeline, and over 598 miles of Secondary Transmission pipeline (PVC pipe) will be in service providing water to about 549 farms and 6 towns and bulk users (Pollock, State Line Rural Water System of N.D., Glenham, Lowry, Akaska, Selby).

Phase II should be operational as early as July or August with 30 miles of Main Pipeline and 548 miles of Secondary Transmission Pipeline which will serve 403 farms and 5 towns and bulk users (Roscoe, Hosmer, Bowdle H.S., Faulkton, Wecota).

Half of Phase III of the Project could be completed and operational as early as August or September and will involve about 10 miles of Main Transmission Pipeline and 256 miles of Secondary Distribution Pipelines which will serve 195 farms and 2 towns (Chelsea and Cresbard).

The second half of Phase III, which work is just starting on this spring, will include 15 miles of Main Pipeline and 330 miles of Secondary Distribution Pipelines and will serve 230 farms and 3 towns (Leola, Ipswich, Wetonka).

The remainder of the Project is included in Phases IV, V, and VI. Design has been completed on Phase IV which will include about 40 miles of Main Transmission Pipeline and about 900 miles of Secondary Transmission Pipeline. Plans and Specifications could be completed and bids advertised on Phase IV in May if additional funds were available.

Economic Impact

The bids on the first 23 contracts for the WEB Project have came in $3,216,514 below the engineer's estimate. The current construction market is favorable for construction of the WEB Project. Over 3,500 miles of the WEB Pipeline system will be constructed of PVC pipe, which is made from a by-product of the crude oil industry. Present low crude oil prices have resulted in reduced costs for PVC pipe.

Construction of the WEB Project in South Dakota results in jobs and economic impact in other states. Pumps, motors, pipe, control equipment, PVC pipe, and the contractors to install them have found work on the WEB Project. Materials and contractors from such states as Alabama, Minnesota, Tennessee, Pennsylvania, Illinois, New York, California, Maryland, Ohio, Iowa, New Jersey, Colorado, Texas, Oklahoma, North Dakota, Nebraska, Kansas, and other states.

Historic Committment

Construction of the WEB Project represents the first construction funding for a major water project in South Dakota since 1977. Construction of the WEB Project represents a partial compensation to the State of South Dakota for the loss of some 500,000 acres of productive farm land which were inundated by the construction of the main stem dams and reservoirs on the Missouri River in the 1960's. The reservoirs provide flood control, power generation, and navigation benefits to down stream states and provide important barge transportation for the central United States.

Project Description & History

The WEB Pipeline Project was first envisioned in 1975 by local County and Town officals in Walworth, Edmunds, and Brown Counties. WEB tooks it's name for these three counties. The project area quickly grew to all or parts of 13 counties. Signups were taken in each county by a local "Steering Committee" and funds collected were used to finance engineering feasibility studies.

The WEB Project will provide quality domestic water to towns and farms in a project area larger than the state of Connecticut. The source of water for the project is the Missouri River, Lake Oahe Reservoir which is an impoundment of water created by construction of Lake Oahe Dam and Reservoir, a U.S. Corps of Engineers facility constructed under the Pick-Sloan Act.

The area to be served contains 5,245 square miles. The project will serve 58 towns and bulk users and 3,700 farms, ranches, and rural home sites. The project will also provide water for 532,000 head of livestock. The project area represents about 8% of the land area of the State of South Dakota, and within that area approximately 85% of the population are signed up to be served.

Project construction includes 116 miles of Main Transmission Pipeline ranging in size from 30 inch to 14 inch ductile iron, steel, or PVC pipe. There will be 3,401 miles of Secondary Distribution pipe ranging in size from 14 inch to 1½ PVC (pol-vinyl pipe).

Project water will be pumped from Lake Oahe 3½ miles east to a central Water Treatment Plant where water will be cleaned, filtered, treated, and dispersed to project users through the WEB pipeline system. Water will be sold to users on a metered basis and revenues collected will be used to meet repayment obligations and operational costs.

The feasibility of the WEB Pipeline Project and it's repayment capability were examined by the Bureau of Reclamation, the Department of Interior, the Office of Management and Budget, and the State of South Dakota in 1983 and approved. All construction contract plans and specifications are reviewed by the Bureau of Reclamation and the S.D. Department of Water and Natural Resources before contracts are awarded. Historic and Cultural Resource Surveys are completed before construction begins, and sensitive areas are avoided. The Bureau of Reclamation, with offices in Pierre and Newell, South Dakota, provide federal oversight for the construction of the project. A representative of the Bureau of Reclamation attends WEB Board Meetings and construction related meetings as well as provides some onsite inspection.

The engineers for the WEB Project are Bartlett and West Engineering of Topeka, Kansas and Boyle Engineering Corporation of Bakersfield, California. A staff of Resident Engineers provided by BW/BEC, assisted by Resident Inspectors provided by the WEB Association, observe the day-to-day construction of the Project.

The activities of the WEB Water Development Association, Inc., are governed by a nine (9) member Board of Directors which are elected by the membership at an Annual Meeting. The Board is made up of six (6) rural directors elected from specific rural districts and three (3) municipal directors elected at large.

Authority

Construction of the WEB Project was first authorized by Congress in September of 1980 through passage of Public Law 96-355. The Project was "reauthorized" in September of 1982 through the passage of Public Law 97-273. Project "Design Report" dated September, 1983 represents the authorizing document reviewed by Congress when the authorization was approved.

Construction Status

A repayment contract was signed and entered into on September 28, 1983 and the first construction was awarded on the Lake Oahe Pumping Plant on October 13, 1983 and construction began on October 20, 1983.

As of this date, bids have been opened and/or awarded on 23 contracts totaling $44,513,326 (see WEB Attachment "A"). In addition, contracts totaling $12,379,639 in the Phase IV area have been designed and are ready for bid.

Funding and Repayment

On February 14, 1986 Project construction costs were estimated by Project Engineers to be $105,437,000 (see WEB Attachment "B"). Funding for the Project includes $4,000,000 in construction funding provided by the WEB Water Development Association through membership hookup fees and contributions from the Oahe Conservancy Sub-district, a regional water district supported by local tax levy. The WEB Association will also repay $21,576,000 in loans with interest.

Need

There is great need in the WEB Project area for good quality domestic water. The quality of groundwater supplies in the area is poor and in most cases does not meet the federal standards for health and safety. It is estimated that from 20% to 25% of the water consumed on farms in the WEB Project area is not fit for human consumption. Poor quality water causes stress on livestock resulting in reduced milk production, reduced weight gain, and health problems.

Ground wells are difficult to maintain and are costly to replace. The estimated life of deep artesian wells in the western portion of the WEB Project is 10 to 12 years. Replacement costs run from $20,000 to $25,000 per well. Farmers hard pressed by todays agricultural economy find repair and replacement of wells a burden that can make staying on the farm difficult.

The WEB Project will provide good quality water for household and livestock use at a reasonable cost.

The WEB Project will provide a stable and reliable water supply.

WEB water rates will result in a water bill of $50.00 for the average farm using about 19,000 gallons of water per month. Towns and bulk users will pay from $1.22 to $1.79 per thousand gallons of water use depending upon the towns water storage system.

Local Support

The WEB Project has allways enjoyed strong local support. This is evidenced by the high percentage of signup in the project area (85%), and the funding support given the project by WEB members, the Oahe Subdistrict, and the State of South Dakota.

Environmental Impacts

Because the WEB Project water is delivered through a system of buried pipeline, construction will result in no longer term disruption or impact to the environment. All right-of-way secured for construction of the project thus far has been "given" voluntarily by landowners without compensation.

The WEB Project enjoys the strong and active support of the members of the South Dakota Congressional Delegation, Senator James Abdnor, Senator Larry Pressler, and Congressman Tom Daschle. Thank you.

WEB Attachment "A"

October 8, 1985
March 15, 1986

"Update"
WEB RURAL WATER DEVELOPMENT PROJECT
SOUTH DAKOTA

Population Served

25,000 people (85% of people in service area)

57 towns and bulk users	15,000 peoople
3,700 rural taps*	10,000 people
170 rural taps (North Dakota)	600 people

531,918 livestock (cattle equivalent use 401,000)

*As of July, 1985

Area Served

5,245 square miles (larger than State of Connecticut)
13 county area - north central South Dakota
140 miles long x 90 miles wide (240 miles from furthest points)

Project Facilities

Storage Reservoir Capacity	8,084,000 gallon
Lake Oahe Intake & Pumps	4,861 GPM
Water Treatment Plant	7.7 MGD - peak
Main Transmission Line (30"-14")	116 miles
Secondary Trans. & Dist. Line (14" x 1½")	3,401 miles
Reservoirs & Storage Tanks	17
Total Miles of Pipeline	3,517 miles
Pipeline Depth (from top of pipe)	6 to 7 feet min.

Project Cost

Total Cost (USBR Indexed as of 10/86 costs)	$105,400,000

Funding

Federal loans and grant	$101,400,000
Local Funds (State, Oahe Sub-District, WEB)	$ 4,000,000

Authority

Authorized by Congress (PL 973)	September 1982
Final Plans and Spec's.	September 1983
Repayment Contract Signed	September 29, 1983
First Contract Award	October 13, 1983
Construction Begun	October 20, 1983

Federal Agency

U.S. Department of Interior - Bureau of Reclamation

Construction Completed
As of March 15, 1986

Total Program Outlay To date	$38,656,171.16 (*)
Storage Reservoir Capacity Complete	3,100,000 gallon
Lake Oahe Intake & Pumping Plant Complete	
Water Treatment Plant Complete	
Main Pipeline (30" and 24" DIP) Complete	52.3 miles
Rural Distribution Pipelines (14" to 1½" PVC) Complete	1349 miles
TOTAL PIPE MILES INSTALLED (As of 3/15/86)	1401 miles

FY-86 Appropriations

Authorized Funds FY-86	$18,525,000
** LESS: Fund Reduction (Gramm-Rudman and "under financing")	- 2,327,775(13%)
FEDERAL FUNDS AVAILABLE FY-86	$16,197,225 (**)

FY-87 Budget Request

FY-87	$32,979,000
FY-88	20,858,000

FY-87 Budget Proposal

FY-87	$21,400,000

(* Federal Funds $37,423,171.16, and local funds of $1,233,000)

(** November, 1985 -$1,600,000, and January, 1986 -$727,775.00)

WEB PROJECT STATUS REPORT

As Of March 15, 1986

Project Feature or Area	% Complete	Pipe Miles	Farms Connected	Bulk Users & Towns To Be Served
Phase 1: (98% Complete)				
Contract 1-1B (Pumping Plant)	99%			
Contract 1-2 (Main Pipeline)	100%	3.5		
Contract 1-3 (Treatment Plant)	98%			
Contract 1-4 (main Pipeline)	100%	3.5		
Contract 1-4A (Main Pipeline)	100%	14.5		
Contract 1-5A (M. City, Selby, Area)	97%	324	309	4
Contract 1-5B (Lowry, Hoven Areas)	98%	274	240	2
Contract 1-6B (1 Water Storage Tank)	100%			
Contract 1-7 (Main Storage Reservoir 2,500,000 gal.)	95%			
Phase 2: (91% Complete)				
Contract 2-1A (Main Pipeline)	99%	16.1		
Contract 2-1B (Main Pipeline)	95%	14.7		
Contract 2-2A (Java, Hosmer, & N. Roscoe Areas)	78%	214	202	3
Contract 2-2B (S. Roscoe, Seneca, & Faulkton Areas)	89%	285	201	2
Contract 2-3 (4 Water Storage Tanks)	99%			
Phase 3: (35% Complete)				
Contracts 3-1A & 3-1B (Main Pipeline)	25%	-		
Contract 3-2A (Beebe, S. Ipswich, & Cresbard Areas)	92%	252	193	2
		(Main) 52.3	1,145	13*
		(Rural) 1,349		
TOTALS - COMPLETED AS OF 3/15/86		1,401.3	1,145	13*
TOTAL PROJECT FEATURES		3,517	3,700	58

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* Towns or Bulk Users Connected to Date: Pollock, State Line Rural Water System of North Dakota, Glenham, Akaska, Selby, Lowry, Bowdle School, Hosmer, Roscoe, Faulkton, Wecota, Cresbard, and Chelsea

Engineer's Estimate Comparison - Phase III

Contract Number	Estimate At Bid Time	July 1983 Estimate (2)	Low Bid	Comments
3-1A	$1,821,068	$1,171,666	$1,624,059	
3-1B	3,172,384	2,837,071	2,632,191	
3-1PRS	208,400	--	277,900	
3-2A	3,462,816	3,391,860	2,995,327	
3-2B	4,766,432	3,870,070	4,047,071	
3-3A	147,000	147,000	177,073	
TOTAL	$13,578,100	$11,417,667	$11,753,621	

Engineer's Estimate Comparison - Phase II

Contract Number	April 1985 Estimate (2)	July 1983 Estimate (2)	4/17/85 Low Bid	Comments
2-1A	$4.289,997		$3,923,709	83 Capacity + 10%
2-1B	3,322,570	$7,190,778	3,152,237	83 Estimate on ACP
2-2A	2,453,683		2,570,178	
2-2B	3,789,300	5,889,453	3,876,986	
2-3	408,000	410,000	422.607	83 Estimate on Welde
Total	$14,263,550	$13,490,231	$13,945,717	

+6%

Engineer's Estimate Comparison - Phase I

Contract Number	Estimates at Bid Time	July 1983 Estimate (2)	Contract Amount 2/25/85	
1-1A	53,897		53,897	
1-1B	1,568,000	1,654,000	1,768,693	
1-1C	129,000		96,171 (1)	
1-1D			(1)	
1-3	3,910,000	3,670,000	3,768,888	
1-2	783,598		614,992	
1-4	714,700	4,945,840	674,879	
1-4A	3,552,882		3,035,218	
1-5A	4,298,392		3,970,421	
1-5B	3,010,656	6,527,204	2,272,130	
1-6B	338,000	320,000	309,634	83 Estimate on Welde
1-7	810,000	555,000	1,074,000	83 Estimate on Welde
Total	$19,169,125	$17,672,044	$18,094,923	
Phase I&II&III	$47,010,775	$42,579.942	$43,794,261	

Engineer's Estimate	$47,010,775
Actual Bid Received	43,794,261
Below Estimate	$ 3.216,514

PHASE 1—WEB WATER DEVELOPMENT ASSOCIATION, INC.

MONTHLY CONSTRUCTION PROGRESS REPORT

CONTRACT	CONTRACTOR	CONTRACT AMOUNT	DUE CONTRACTOR	EARNINGS THIS PERIOD	% COMPLETE
WEB 1-1A Lake Oahe Intake Earthwork	Jacobs Construction Aberdeen, SD	$ 53,897	$ 53,897	$ N/A	100
WEB 1-1B Lake Oahe Intake & Pumping Station	Ranney Company Westerville, OH	1,772,684	1,769,584 *	7,000	99
WEB 1-1C Slope Protection	N/A	96,171**	N/A	N/A	N/A
WEB 1-1D Rip Rap at Intake	Herreid Concrete Herreid, SD	46,582	46,582	N/A	100
WEB 1-2 Raw Water Pipeline	Sorsin Construction Fargo, ND	614,992	614,992	-0-	99
WEB 1-3 Water Treat. Plant	Barbarossa & Sons, Inc. Osseo, MN	3,803,868	3,653,144	47,470	96
WEB 1-4 Main Transmission	Midwest Contracting Marshall, MN	685,221	685,221	-0-	100
WEB 1-4A Main Transmission	Barbarossa & Sons, Inc. Osseo, MN	3,034,140	3,030,493	-0-	99
WEB 1-5A Secondary Distrib.	Northern Improvement, Inc. Fargo, ND	3,964,755	3,862,830	-0-	97
WEB 1-5B Secondary Distrib.	BRB Contractors, Inc. Topeka, KS	2,783,924	2,773,767	-0-	99
WEB 1-6B Water Storage Tanks	Engineering America, Inc. Minneapolis, MN	347,318	345,494	-0-	99
WEB 1-7 Main Storage Res.	Wanzek Construction, Inc. Fargo, ND	1,074,105	1,026,563	-0-	96
SUMMARY TO END OF PERIOD		$18,277,657	$17,862,567	$54,470	98

* Amount to Nearest Dollar ** Not Awarded

PHASE 2

WEB WATER DEVELOPMENT ASSOCIATION, INC.

MONTHLY CONSTRUCTION PROGRESS REPORT

CONTRACT	CONTRACTOR	CONTRACT AMOUNT*	DUE CONTRACTOR	EARNINGS THIS PERIOD	% COMPLET
WEB 2-1A Main Transmission	Barbarossa & Sons, Inc. Osseo, MN	$ 3,923,709	$ 3,923,309	$ -0-	99
WEB 2-1B Main Transmission	Barbarossa & Sons, Inc. Osseo, MN	3,152,238	3,001,041	-0-	95
WEB 2-2A Secondary Distribution	Eatherly Constructors, Inc. Garden City, KS	2,818,797	2,186,144	58,230	78
WEB 2-2B Secondary Distribution	Eatherly Constructors, Inc. Garden City, KS	4,218,561	3,732,442	60,041	89
WEB 2-3 Water Storage Tanks	Engineering America, Inc. Minneapolis, MN	426,948	426,948	-0-	99
SUMMARY TO END OF PERIOD		$14,540,253	$13,269,884	$118,271	91

* Amount to Nearest Dollar

PHASE 3

WEB WATER DEVELOPMENT ASSOCIATION, INC.

MONTHLY CONSTRUCTION PROGRESS REPORT

CONTRACT	CONTRACTOR	CONTRACT AMOUNT	DUE CONTRACTOR	EARNINGS THIS PERIOD	% COMP
WEB 3-1A Main Transmission	Barbarossa & Sons, Inc. Osseo, MN	$1,624,059	$ 893,509	$ 444,900	55
WEB 3-1B Main Transmission	Barbarossa & Sons, Inc. Osseo, MN	2,632,191	-0-	-0-	0
WEB 3-1PRS Pressure Red. Stations	Barbarossa & Sons, Inc. Osseo, MN	277,900	-0-	-0-	0
WEB 3-2A Secondary Distribution	Michels Pipe Line Const. Brownsville, WI	3,042,372	2,845,306	-0-	94
WEB 3-2B Secondary Distribution	Not Yet Awarded	3,941,821*	N/A	N/A	N/A
WEB 3-3A Water Storage Tank	Engineering America, Inc. Minneapolis, MN	177,073	-0-	-0-	0
SUMMARY TO END OF PERIOD		$11,695,416	$3,738,815	$444,900	32

*Base Bid

WEB WATER DEVELOPMENT ASSOCIATION, INC.

MONTHLY CONSTRUCTION PROGRESS REPORT

PROJECT SECTION	TOTAL CONTRACT AMOUNT*	DUE CONTRACTORS	EARNINGS THIS PERIOD	% COMPLETE
PHASE 1	18,277,657	17,862,657	54,470	98
PHASE 2	14,540,253	13,269,884	118,271	91
PHASE 3	7,753,595	3,738,815	444,900	48
SUMMARY TO END OF P ERIOD	40,571,505	34,871,356	617,641	86

* Does not include non awarded contracts.

Attachment "B"

TABLE 1

TOTAL PROJECT COSTS
To 2/14/86

Project Component	Cost	Subtotal	Total
1. Development & Construction	87.700		
(see Table 2)		87.700	
2. Land & Rights	.215		
(Design Report + 5%)		.215	
3. Legal	1.208		
(Design Report + 5%)		1.208	
4. Engineering			
Basic Services *(1)	4.560		
Additional Services *(2)	0.580		
Resident Inspection *(3)	3.508		
		8.648	
5. Interest	2.580		
(Design Report)		2.580	
6. Equipment	.193		
(Design Report + 5%)		.193	
7. Contingencies *(4)	3.412		
		3.412	
8. Initial O & M	.563		
(Design Report + 10%)		.563	
9. Inital Reserve	.130		
		.130	
10. Federal Administration	.788		
(Design Report + 5%)		.788	
TOTAL ESTIMATE WEB COST			105.437

*(1) Construction Est. x 5.2%
*(2) Fees to Date + $150,000
*(3) Construction Est. x 4.0%
*(4) 6.3% on uncompleted project items based on Total Est. Cost to Date, Less Total Earnings to Date

TABLE 2

UPDATE WEB CONSTRUCTION COSTS
To 2/14/86

Phase 1:	Cost	Note	Totals
1-1A; Intake; Contract Amount (C.A.)	$ 53,897	---	
1-1B; Intake; C.A.	1,772,119	---	
1-1C; Slope ; Bid Amount (Not Awarded)	96,171	---	
1-1D; Rip Rap; C.A.	46,582	---	
1-2 ; Raw Water; C.A.	614,992	---	
1-3 ; WTP; C.A.	3,803,868	---	
1-3A; WTP Expansion; Est.	2,832,500	1	
1-4 ; Main Line; C.A.	685,221	---	
1-4A; Main Line; C.A.	3,034,140	---	
1-5A; Secondary; C.A.	3,964,755	---	
1-5B; Secondary; C.A.	2,783,924	---	
1-6B; Tanks ; C.A.	347,318	---	
1-7 ; Main Tank; C.A.	1,074,105	---	
1-7A; Main Tank; Est.	773,170	2	
----; Rip Rap ; C.A.	28,018	---	
1-1E; Site Work; Est.	50,000	---	
1-4B; Cathodic Protection; Est.	75,000	3	
TOTALS			$22,035,780

Phase 2:	Cost	Note	Totals
2-1A; Main Line; C.A	$ 3,923,709	---	
2-1B; Main Line; C.A.	3,228,692	---	
2-2A; Secondary; C.A.	2,818,797	---	
2-2B; Secondary; C.A.	4,218,561	---	
2-3 ; Tanks ; C.A.	426,948	---	
2-1F; Cathodic Protection; Est.	105,000	3	
----; Faulkton Revision; Est.	150,000	4	
TOTALS			$14,871,707

Phase 3:	Cost	Note	Totals
3-1A; Main Line; C.A.	$ 1,624,059	---	
3-1B; Main Line; C.A.	2,624,991	---	
3-1PRS; Vaults ; C.A.	277,900	---	
3-2A; Secondary; C.A.	3,042,372	---	
3-2B; Secondary; Est.	4,217,688	---	
3-3A; Tanks ; C.A.	177,073	---	
3-3B; Tanks ; Est.	280,000	5	
3-1F; Cathodic ; Est.	75,000	3	
TOTALS			$12,319,083

Phase 4:	Cost	Note	Totals
4-1A; Main Line; Est.	$ 2,320,392	6	
4-1B; Main Line; Est.	2,855,677	6	
4-1C; Main Line; Est.	2,027,518	6	
4-1D; Main Line; Est.	1,296,306	6	
4-1E; Main Line; Est.	1,837,500	7	
4-2A; Secondary; Aberdeen & partial Warner Est.	3,292,591	8	
4-2B; Secondary; Frederick area Est.	2,720,057	8	
4-2C; Secondary; Warner area Est.	2,870,662	8	
4-3A; Aberdeen Tank; Est.	586,000	9	
4-3B; Fred. Tank; Est.	158,000	10	
TOTALS			$19,964,703

Phase 5:	Cost	Note	Totals
1. Andover Service Area; Est.	$ 1,186,346	12	
2. Ashton Service Area; Est.	5,250,442	12	
3. Conde Service Area; Est.	3,680,153	12	
4. Doland Service Area; Est.	1,824,441	12	
5. Webster Service Area; Est.	4,677,534	12	
TOTALS			$16,618,916

Misc. Facilities:	Cost	Note	Totals
Control System; Est.	$ 680,400	11	
O & M Center; Est.	237,600	11	
Town Improvements; Est.	972,000	11	
TOTALS			$ 1,890,000
TOTAL ESTIMATED COSTS; ALL PHASES & FACILITIES			$87,700,189

Notes to Table 1:

1. Design Report shows
WTP expansion = $2,450,000
+ Intake expansion = 125,000
= $2,575,000 x 1.10 Inflation Factor

2. Analysis of expected costs of concrete
Reservoirs of SWPP shows cost of .25/gallon.
Cost of .25/gallon leaves $449,000 on 1-7 site work, etc.
Assume 1-7A to need 1/3 total of 1-7 site work, etc.
Therefore 1-7A calc. as follows:
(2.5 million gallons x .25) + 1/3 (449,000) = $773,170

3. Analysis of expected costs of Cathodic Protection for SWPP
Shows cost of 15,000 +/- for each protection station.
Stations spaced as follows:
30" Line; 1 Station per 3.5 miles +/-
24" Line; 1 Station per 4.5 miles +/-
18" Line; 1 Station per 5.5 miles +/-
14" Line; 1 Station per 10.5 miles +/-

On Phase 1:

Contract 1-2 ; 3.26 miles of 24" ---------- 1 Station
Contract 1-4 ; 3.23 miles of 24" ---------- 1 Station
Contract 1-4A; 14.50 miles of 24" ---------- 3 Stations

5 Stations x 15000 = $75,000

On Phase 2:

Contract 2-1A; 8.6 miles of 30" ---------- 2 Stations
7.5 miles of 24" ---------- 2 Stations
Contract 2-1B; 14.7 miles of 24" ---------- 3 Stations

7 Stations x 15,000 = $105,000

On Phase 3:

Contract 3-1A; 10.0 miles of 18" ---------- 2 Stations
Contract 3-1B; 15.0 miles of 18"/20" ------- 3 Stations

5 Stations x 15,000 = $75,000

4. Represents additions of rural users S. and E. of Faulkton; within Faulkton Service area.
Estimate based on 2-2B unit prices.

5. Revised from Design Report from 1 tank @ 125,000 to 3 tanks @ 280,000

6. Per Doug Mund's Estimate of 1/7/86:
4-1A; 2,320,392
4-1B; 2,855,677
4-1C; 2,027,518
4-1D; 1,296,306

7. Calcu. new Main Line as follows:
75,000 ft. @ 19.60/ft. x 1.25 (for appurt.) = 1,837,500

8. Based on analysis of rural contracts constructed to date, revise Phase 4 Design Report estimates by +11.0%.

   Revise Design Report Est. Aberdeen service area from 2,786,816 to 2,187,694 based on M. Dunnaway's letter of 2/5/86. (Re: WEB 4-2A).

   Also add 15% to Aberdeen area for increased sign-ups and add $500,000 for increased service area in the vicinity of Columbia and South.

   Revised figures as follows:

   (Aberdeen and
   partial
   Warner) 4-2A; 2,187,694 x 1.11 x 1.15 + 500,000 = 3,292,591
   (Frederick) 4-2B; 2,450,502 x 1.11 = 2,720,057
   (Warner) 4-2C; 2,586,182 x 1.11 = 2,870,662

9. Adjust Design Report by Dunnaway letter 2/5/86.
   Design figure is adjusted by +9.0%, see note 10.

   (400,000) (1.09) + 150,000 = 586,000

10. Based on analysis of Bids Received for Phase 1, 2, 3 Tanks increase estimate by 9%.

    145,000 x 1.09 = 158,000

11. Based on analysis of Bids Received to Date increase Facility Estimate by 8%.

    Control ; 630,000 x 1.08 = 680,400
    O & M ; 220,000 x 1.08 = 237,600
    Town Impr; 900,000 x 1.08 = 972,000

12. Revised estimates based on design report quantities and unit prices derived from analysis of recent bids. Also add $200,000 for expansion of Ashton service area in the vicinity of Miranda and $500,000 for expansion of Webster service area in the vicinity of Roslyn.

ENVIRONMENTAL ASSESSMENT
for
WEB RURAL WATER DEVELOPMENT PROJECT
Submitted by
WEB WATER DEVELOPMENT ASSOCIATION, INC.
September 1982

FINDING OF NO SIGNIFICANT IMPACT
Bureau of Reclamation
Upper Missouri Region
Billings, Montana

FONSI UM-82-4

The WEB Rural Water Development Project is authorized under Section 9 of the Rural Development Policy Act of 1980, to develop an adequate supply of good quality potable water for the residents of north central South Dakota. The United States Government, through the Secretary of the Interior, proposes to fund the project.

The project will include an intake station on Oahe Reservoir, a raw water pipeline, a water treatment facility, and a main transmission system. The water capacity will be 6.8 Mgal/d (million gallons per day), preferred plan, power requirements are estimated at 2,600,000 kWh annually, and the estimated transmission system includes approximately 3,600 miles of pipeline, 88 percent of which has a range of 1½ to 5 inches in diameter.

Based on the attached Environmental Assessment, we have concluded that the proposed action will have no significant environmental impact for the following reasons:

1. The water requirements of 6.8 Mgal/d (6,037 acre-feet per year) will have no detectable effect on existing or projected water requirements for Oahe Reservoir.

2. The impact on wetlands and cultural resources during the pipeline construction can be effectively mitigated. No sites on the National Register of Historic Places will be affected.

3. No impact is anticipated on threatened or endangered species.

4. No controversy is indicated in the written comments from agencies and groups.

5. Most of the pipeline will be installed in highway and road rights-of-way.

Recommended:

Regional Engineer — Date 9/24/82

Regional Environmental
Affairs Officer — Date 9-24-82

Approved:

Regional Director — Date 9-24-82

1.0 PURPOSE AND NEED FOR RURAL WATER DEVELOPMENT PROJECT

1.1 WATER SUPPLY DEFICIENCIES

1.1.1 General

Development of an adequate good quality water supply has been a long term continuing effort of the residents of north central South Dakota. Since the source of an acceptable water supply has not been readily available to rural farm and town residents, more readily obtained poor quality ground water has been and is presently being utilized. Reliance upon this poor quality water imposes a continuing regional economic restraint in addition to the health related concerns.

1.1.2 Towns

Fifty-one (51) towns within this regional area indicated a need for a new water supply source. These 51 towns with an estimated population of 17,124 people represent 95 percent of the total town population in the region.

Thirty-five (35) of these towns presently maintain a public water supply system. The total estimated population served by these towns is 16,305 people. A list of all towns requesting a new water supply appears as Table 1.1.

Chemical analysis data for thirty-four of these systems is given in Tables 1.2 and 1.3. The tables show that certain chemical constituents in these existing public water sources exceed the Maximum Contaminant Levels (MCL) in the Interim, Primary and Secondary Drinking Water Regulations promulgated pursuant to P.L. 93-523 of the Safe Drinking Water Act. The primary MCL for fluoride is exceeded in 12 systems serving a total of 5,916 people. The secondary MCL's exceeded are as follows: Chloride - 13 systems, manganese - 20 systems, sulfate - 30 systems, and total dissolved solids - 34 systems. Also, 11 systems have hardness exceeding 300 ppm and 13 systems have sodium exceeding 250 ppm. One town has water with seven, 11 towns have at least six, 27 towns have at least five, 30 towns have at least four, and all 34 towns have at least three undesirable constituents in their existing water supplies.

1.1.3 Farm Residences and Livestock

Recent surveys of private water source and supply systems in the region show that the primary source of water is wells. A few households use dams, dugouts, cisterns or haul water. For livestock usage, dams and dugouts also are a significant source of supply.

In a survey of farm and open country residences in the study area, the desire for a better water source was expressed by 2925 residences through payment of a good intention fee. This showing of interest represents approximately 72 percent of the total residences. A further listing of potential water users by county is shown on Table 1.4. Data provided by this survey showed the following depth information for 2699 wells:

Shallow (< 100 feet)	25.7%
Intermediate (100 to 200 feet)	8.5%
Deep (> 200 feet)	65.8%

Because of the lack of uniform and reliable data, the quality of existing private facilities used by the farms and rural residences cannot be established. Generally, it is believed that the chemical quality of the private supplies is similar to the public supplies except possibly for nitrate. A study in 1975 of bacteria and nitrate contamination of farm wells in two southeast South Dakota counties found significant percentages of cisterns, shallow wells and intermediate wells that were contaminated and unsafe for human use. Since that study area is removed from the WEB area, the results do not apply directly. However, nitrate and bacteria contamination of private drinking water sources in the WEB area probably does exist. This is of particular concern because these supplies are not regularly tested like the public supplies.

1.2 GROUNDWATER DATA

1.2.1 General

Both bedrock and glacial aquifers are utilized as an existing water source for region residents. In general, the quality of waters from both sources are poor and/or yields inadequate. There are, however, small isolated known locations of water having acceptable quality and adequate yield for local area users.

1.2.2 Bedrock Aquifers

Underlying the entire region are fine to very fine grained sandstones of at least nine distinct formations. The upper water bearing Dakota, Fall River and Sundance formations serve as a groundwater aquifer for area residents. The depth to these upper formations varies from 850 to 2100 feet. Their combined thickness varies from 250 to 550 feet. Prior to development as sources of water, the bedrock aquifers contained water under artesian pressure exceeding 250 psi at the land surface in Brown and Spink Counties. Development of these aquifers during the last 90 years has caused a significant and rapid drop in head. Between 1900 and 1970 the head near Aberdeen declined by about 390 feet. Geologists and hydrologists have not been able to determine the source of recharge to these bedrock aquifers.

The decline in artesian pressure has decreased natural flow well yields. Around the year 1900, yields in Brown County reportedly ranged from 300 to 1,060 gpm. In 1973 the average well flow was about 3 gpm and some wells have ceased to flow. The decrease in head in the Dakota aquifer has caused the head in the Fall River and Sundance aquifers to fall also. Where significant head differences between these aquifers exist, or have existed, mixing of the water takes place. This is particularly the case in Brown and Spink counties.

The water from bedrock wells contain high concentrations of minerals and the quality is regarded as poor. Table 1.2 contains data on 34 public systems wells developed in the sandstone formations. The iron concentration ranges from <0.1 to 3.2 ppm and equals or exceeds 0.3 (secondary MCL) in 22 wells. Likewise the manganese concentration ranges from <0.02 to 0.24 ppm and equals or exceeds 0.05 (secondary MCL) in 17 wells. Similarly the table shows that: Fluoride exceeds 2.4 ppm (primary MCL) in 17 wells, sulfate exceeds 250 ppm (secondary MCL) in 33 wells, chloride exceeds 250 ppm (secondary MCL) in 15 wells, total dissolved solids exceeds 500 ppm (secondary MCL) in all 34 wells (range 1901-3678 ppm), sodium exceeds 250 ppm in 30 wells, and total hardness exceeds 300 ppm in 8 wells.

In some instances conventional treatment for iron and manganese removal could affect improvement in the quality of water from the bedrock aquifers. However, such treated water would still exceed standards for several other constituents. Desalination of the water from the bedrock aquifers would be required to meet all standards for public water supplies.

1.2.3 Glacial Aquifers

A complex system of glacial aquifers is present in the region. Some investigators separate glacial aquifers into "shallow" and "buried" or "deep". There are areas where two or even three aquifers may be present at the same horizontal location. The shallow and deep aquifers may at times be hydraulically connected. Some glacial aquifers occur under artesian conditions, some under water table conditions, and some under both (different areas). Recharge into glacial aquifers generally comes from the surface as water that falls as rain or snow and percolates into the aquifer. In some areas there is significant recharge from streamflow. There are also locations where recharge is occurring through improperly sealed or perforated casing wells which penetrate glacial aquifers and are developed in bedrock aquifers. It is difficult to make general statements about glacial aquifers because of their highly diverse nature. The particle size, gradation and thickness of the outwash sands and gravels is extremely variable. There have been instances where well yield varies by a factor of two over as short a horizontal distance as 20 feet. Extreme quality variations are also present. However, in general the quality of the water in the glacial aquifers is somewhat better than that in the bedrock aquifers.

Summaries of possible yield and quality data are given in Table 1.5. The quality data for water from 38 public system wells currently utilizing glacial aquifers as sources appears in Table 1.3. In these, the iron concentration ranges from 0.2 to 9.5 ppm and equals or exceeds 0.3 (secondary MCL) in 24 wells. Likewise the manganese concentration ranges from <0.02 to 1.61 and equals or exceeds 0.05 (secondary MCL) in 35 wells. Similarly the table shows that fluoride exceeds 24 ppm (primary MCL) in 1 well, sulfate exceeds 250 ppm (secondary MCL) in 23 wells, chloride exceeds 250 ppm (secondary MCL) in 17 wells, total dissolved solids exceeds 500 ppm (secondary MCL) in 36 wells (range 437-1800 ppm), sodium exceeds 250 ppm in 17 wells; and total dissolved hardness exceeds 300 ppm in 19 wells.

There are a number of instances where conventional treatment for iron and manganese removal could affect improvement in the quality of water from the glacial aquifers. However, such treated water would still exceed standards for at least several other constituents. There are two towns in which conventional treatment consisting of disinfection, softening, and manganese or iron removal (one of the two) would produce water meeting all primary and secondary standards. These towns are Selby and Hoven. The town of Java is within the WEB service area but has not joined the WEB project. Java could, with conventional treatment, obtain water meeting all the standards except for sulfate. The towns of Eureka and Waubay are outside, but adjacent to the WEB service area. They could treat their water by the same conventional methods and meet all standards.

The City of Aberdeen, the largest population center in the region, has utilized groundwater from sand pits in the Elm aquifer during droughts. They have several water rights and future use permits for Elm aquifer water in the area along the Elm river northwest of the city. The available water quality data from that area indicates that with conventional treatment, standards would be met.

For other than the above mentioned sources, desalination treatment would be required of water being used from the regions glacial aquifers in order to comply with all standards.

1.3 AREA OF NEED

1.3.1 Organization

Residents of the north central region of South Dakota east of the Missouri River began to organize in the early 1970's in an effort to solve their water quality and supply problems. The rural water system development program as administered by the federal Farmer's Home Administration (FmHA) was being used in other areas of the state and midwest to provide needed water supplies and appeared to be applicable to this region. Interested parties from Walworth, Edmunds and Brown counties formed the original study group and the project acronym (WEB) was derived from these county names. Additional interested parties were added to the WEB organization from Day, Spink, Campbell, Faulk, Potter and McPherson counties as WEB activities proceeded.

The present WEB planning organization is a non-profit corporation governed by a nine member board of directors. These board of directors are elected from members of the county rural water steering committees and town councils.

WEB Water Development Association, Inc.

TABLE 1.2

CHEMICAL DATA OF EXISTING PUBLIC SOURCES FROM BEDROCK WELLS

Town	Well No. or Name	Date of Sample	Langelier Index @ 50°F	pH	P Alkalinity ppm	T Alkalinity ppm	Total Hardness $CaCO_3$ ppm	Calcium Ca ppm	Magnesium Mg ppm	Bicarbonate HCO_3 ppm	Sulfate SO_4 ppm	Iron Fe ppm	Manganese Mn ppm	Sodium Na ppm	Potassium K ppm	Chloride Cl ppm	Fluoride F ppm	Nitrate NO_3 as N ppm	Total Solids ppm
Ferney	1	1/78	-0.57	7.9	0	254	38	10	3	310	1080	0.3	0.05	738	9	171	3.3	1.8	2205
Groton	School	1/78(T)	-0.60	7.4	0	127	253	69	20	155	1220	0.5	0.10	604	19	125	1.9	0.1	2195
	RR-Sby	3/78(R)	0.00	8.2	0	189	93	26	7	231	1170	0.3	0.06	685	12	146	2.2	<0.1	<2149
	Streeter	1/78(T)	-0.82	7.2	0	181	168	40	17	221	1260	2.3	0.24	706	18	146	1.8	0.1	2363
	Tower	1/78(R)	-0.02	8.1	0	177	118	32	9	216	1140	0.9	0.06	670	14	148	2.3	< 0.0	2161
Mansfield	N-RR	5/78	+0.03	8.5	-	227	42	12	3	271	610	0.2	0.06	668	10	461	1.7	<0.1	1979
	S-City	5/78	+0.02	8.4	-	230	49	14	4	276	620	0.1	0.05	669	10	477	1.6	0.1	1949
Stratford	1	1/78	+0.05	8.0	0	168	206	54	17	205	1030	0.1	0.09	654	17	295	1.4	<0.1	2190
Warner San. Dist.	3 Wells	2/77(C)	-0.35	8.0	0	206	53	16	4	251	970	0.7	0.06	693	9	210	2.4	1.4	2075
Mound City	1	11/76	+0.07	7.4	0	134	1025	273	84	163	1310	0.8	0.20	259	21	124	2.9	< 1	2310
Ipswich	1	10/73	-	7.3	0	122	1227	343	89	149	1309	2.0	0.10	128	19	48	2.7	< 1	2172
	2	11/76	+0.07	7.3	0	139	1178	330	86	170	1260	1.6	0.15	125	21	51	2.9	< 1	2150
	3	11/76	+0.02	7.2	0	139	1199	333	89	170	1268	2.7	0.14	117	20	52	3.0	< 1	2149
Roscoe	1	11/76	+0.12	8.2	0	702	43	9	5	856	480	0.3	0.02	806	11	405	3.0	< 1	2188
	2	9/74	-	7.8	0	518	183	51	12	632	0	3.3	0.14	1322	19	1822	0.4	< 1	3676
Cresbard	1 & 2	11/77(C)	+0.20	7.9	0	551	114	27	12	672	370	0.1	<0.02	770	15	580	2.4	1.0	2144
Orient	1	11/76	+0.16	7.3	0	134	1344	388	91	163	1300	3.2	0.17	88	21	67	3.1	< 1	2228
Rockham	1	11/76	-0.16	8.3	0	416	26	7	2	508	610	0.2	0.03	704	7	333	3.3	1.7	1955
Zell	1	2/77	-0.51	8.1	0	427	17	4	2	521	610	0.1	0.03	685	6	267	4.0	1.8	1901

TABLE 1.2 (Con't)

CHEMICAL DATA OF EXISTING PUBLIC SOURCES FROM BEDROCK WELLS

Town	Well No. or Name	Date of Sample	Langelier Index @ 50°F	pH	P Alkalinity ppm	T Alkalinity ppm	Total Hardness $CaCO_3$ ppm	Calcium Ca ppm	Magnesium Mg ppm	Bicarbonate HCO_3 ppm	Sulfate SO_4 ppm	Iron Fe ppm	Manganese Mn ppm	Sodium Na ppm	Potassium K ppm	Chloride Cl ppm	Fluoride F ppm	Nitrate NO_3 as N ppm	Total Solids ppm
Leola	1	11/77	+0.32	8.1	0	679	80	19	8	828	340	0.1	<0.02	803	17	552	2.2	<0.1	2198
	2	11/77	+0.23	8.0	0	614	90	22	9	749	360	0.8	<0.02	772	17	529	2.2	0.1	2143
Wetonka	1	5/78	+0.56	8.5	10	562	69	16	7	661	300	<0.1	<0.02	902	18	828	2.5	3.3	2556
Ashton	S-1	2/57	-	7.6	0	150	752	203	59	183	1258	1.4	<0.02	350	25	75	2.2	< 1	2178
	E-2	2/57	-	8.1	2	186	426	112	35	227	1159	2.1	<0.02	575	13	212	2.4	< 1	2285
	N-4	5/78(C)	+0.14	7.7	0	148	589	163	44	181	1190	0.1	0.07	416	21	130	1.8	0.1	2237
Brentford	E & W	11/77(C)	-0.24	8.1	0	216	60	17	4	264	1130	0.3	2.04	744	10	197	2.4	<0.1	2202
Conde	N-2	3/77	-0.05	8.4	0	323	32	9	3	394	1030	0.6	0.03	825	9	284	3.8	<0.1	2313
Doland	1	1/75	-	-	0	263	31	8	3	321	1000	0.4	0.04	730	8	206	2.8	< 1	2143
	2	10/76(C)	-0.37	8.1	0	267	35	10	3	326	973	0.2	0.02	777	11	293	2.7	< 1	2210
Mellette	N & S	2/77(C)	-0.36	8.3	0	268	26	6	2	327	725	1.1	0.04	693	8	322	2.6	<0.1	1988
Northville	1	11/77	-0.20	8.4	0	413	18	5	2	504	580	0.2	0.02	727	7	397	3.2	<0.1	1997
Redfield	East	11/67	-	7.2	0	212	173	48	13	259	1095	0.6	<0.02	653	11	178	2.8	3.0	2130
	West	11/67	-	7.9	0	230	114	33	7	280	1096	1.4	<0.02	699	11	200	3.0	< 1	2224
		1/75(TC)	-	-	0	207	132	35	11	253	1030	0.3	0.05	680	11	196	2.4	< 1	2179

(T) - Treated Water
(T*) - Treated Water Partially Softened
(R) - Untreated Water
(C) - Composite Sample

TABLE 1.2 (Con't)

CHEMICAL DATA OF EXISTING PUBLIC SOURCES FROM BEDROCK WELLS

Town	Well No. or Name	Date of Sample	Langelier Index @ 50°F	pH	P Alkalinity ppm	T Alkalinity ppm	Total Hardness $CaCO_3$ ppm	Calcium Ca ppm	Magnesium Mg ppm	Bicarbonate HCO_3 ppm	Sulfate SO_4 ppm	Iron Fe ppm	Manganese Mn ppm	Sodium Na ppm	Potassium K ppm	Chloride Cl ppm	Fluoride F ppm	Nitrate NO_3 as N ppm	Total Solids ppm
Leola	1	11/77	+0.32	8.1	0	679	80	19	8	828	340	0.1	<0.02	803	17	552	2.2	<0.1	2194
	2	11/77	+0.23	8.0	0	614	90	22	9	749	360	0.8	<0.02	772	17	529	2.2	0.1	2143
Wetonka	1	5/78	+0.56	8.5	10	562	69	16	7	661	300	<0.1	<0.02	902	18	828	2.5	3.3	2556
Ashton	S-1	2/57	-	7.6	0	150	752	203	59	183	1258	1.4	<0.02	350	25	75	2.2	< 1	2178
	E-2	2/57	-	8.1	2	186	426	112	35	227	1159	2.1	<0.02	575	13	212	2.4	< 1	2285
	N-4	5/78(C)	+0.14	7.7	0	148	589	163	44	181	1190	0.1	0.07	416	21	130	1.8	0.1	2237
Brentford	E & W	11/77(C)	-0.24	8.1	0	216	60	17	4	264	1130	0.3	2.04	744	10	197	2.4	<0.1	2202
Conde	N-2	3/77	-0.05	8.4	0	323	32	9	3	394	1030	0.6	0.03	825	9	284	3.8	<0.1	2313
Doland	1	1/75	-	-	0	263	31	8	3	321	1000	0.4	0.04	730	8	206	2.8	< 1	2140
	2	10/76(C)	-0.37	8.1	0	267	35	10	3	326	973	0.2	0.02	777	11	293	2.7	< 1	2210
Mellette	N & S	2/77(C)	-0.36	8.3	0	268	26	6	2	327	725	1.1	0.04	693	8	322	2.6	<0.1	1988
Northville	1	11/77	-0.20	8.4	0	413	18	5	2	504	580	0.2	0.02	727	7	397	3.2	<0.1	1997
Redfield	East	11/67	-	7.2	0	212	173	48	13	259	1095	0.6	<0.02	653	11	178	2.8	3.0	2130
	West	11/67	-	7.9	0	230	114	33	7	280	1096	1.4	<0.02	699	11	200	3.0	< 1	2224
		1/75(TC)	-	-	0	207	132	35	11	253	1030	0.3	0.05	680	11	196	2.4	< 1	2179

(T) - Treated Water
(T*) - Treated Water Partially Softened
(R) - Untreated Water
(C) - Composite Sample

WEB Water Development Association, Inc.

TABLE 1.3

CHEMICAL DATA OF EXISTING PUBLIC SOURCES FROM GLACIAL AQUIFER WELLS

Town	Well No. or Name	Date of Sample	Langelier Index @ 50°F	pH	P Alkalinity ppm	T Alkalinity ppm	Total Hardnes $CaCO_3$ ppm	Calcium Ca ppm	Magnesium Mg ppm	Bicarbonate HCO_3 ppm	Sulfate SO_4 ppm	Iron Fe ppm	Manganese Mn ppm	Sodium Na ppm	Potassium K ppm	Chloride Cl ppm	Fluoride F ppm	Nitrate NO_3 as N ppm	Total Solids ppm
Mound City	2-Sby	7/64	-	7.5	0	642	278	16	20	783	529	0.3	0.60	455	11	54	0.3	< 1	1636
Pollock	1	10/66	-	7.5	0	700	321	78	28	854	227	6.0	0.02	340	13	94	0.2	1.3	1335
	2	8/74	-	7.5	0	731	317	80	27	892	188	2.4	0.12	357	11	111	0.3	0.1	1292
	3	9/76	+0.36	7.5	0	661	317	80	28	806	204	2.1	0.07	339	12	98	0.3	< 1	1244
Andover (Aluvial)	E-1	7/75	+0.38	7.4	0	346	921	211	96	422	816	1.2	0.54	160	9	19	0.3	< 1	1763
(Aquifer)	W-2	7/75	+0.34	7.4	0	340	847	192	89	415	838	0.2	0.52	170	8	25	0.3	< 1	1699
Bristol	1	10/77	+0.70	7.7	0	321	925	228	86	392	790	0.8	0.90	106	8	12	0.2	0.4	1601
	3	10/77	+0.69	7.7	0	320	916	226	86	390	800	0.5	0.90	106	9	12	0.2	0.5	1597
Roslyn	Old	5/70		8.0	0	383	412	111	32	467	377	0.8	0.33	223	11	76	0.4	3.0	1128
	New	9/75	+0.55	7.8	0	476	408	96	41	476	378	0.1	0.31	219	12	56	0.3	< 1	1118
Webster	1	3/60	-	7.6	0	292	802	184	83	356	709	0.2	0.80	138	11	14	0.7	< 1	1431
	3	3/60	-	7.6	0	245	787	187	77	299	724	1.0	0.90	104	10	10	0.7	< 1	1384
	4	3/60	-	7.6	0	244	788	193	73	298	765	1.4	0.90	102	9	7	0.7	< 1	1387
	5	4/60	-	7.6	0	268	985	223	103	327	912	1.3	1.10	124	12	23	0.7	< 1	1800
	6	12/76(R)	+0.43	7.6	0	259	788	181	82	316	776	0.6	1.41	115	11	15	0.4	< 1	1499
	5,6	12/76(T°C)	-0.80	7.4	0	70	366	66	49	85	730	< 0.1	< 0.02	223	11	18	0.9	< 1	1217
Bowdle	1	11/76(R)	-0.08	7.5	0	278	269	65	26	339	78	< 0.1	0.68	54	16	27	0.3	< 1	475
	2	11/76(R)	+0.04	7.4	0	248	469	115	44	303	302	3.8	0.21	57	19	39	0.3	< 1	811
	3	11/76(R)	+0.02	7.6	0	270	266	66	25	329	98	0.4	0.81	71	16	46	0.4	< 1	514
	4-Sby	1/75(R)	-	-	0	273	238	55	23	333	89	2.6	0.80	65	15	32	0.6	< 1	500
	5	9/65	-	7.9	0	272	725	198	56	332	254	0.3	< 0.02	46	9	74	0.1	5.0	1228
	6	11/76(R)	-0.05	7.5	0	279	283	65	29	340	71	< 0.1	0.09	31	15	6	0.5	< 1	437
Hosmer	1,2,3	2/74(RC)	-	7.5	0	164	47	12	4	200	235	0.2	0.10	304	5	208	1.3	< 1	905
	1,2,3	2/74(T°C)	-	7.8	0	160	48	12	4	195	250	0.3	0.10	300	5	209	1.5	< 1	904

TABLE 1.3 (con't)

CHEMICAL DATA OF EXISTING PUBLIC SOURCES FROM GLACIAL AQUIFER WELLS

Town	Well No. or Name	Date of Sample	Langelier Index @ 50°F	pH	P Alkalinity ppm	T Alkalinity ppm	Total Hardness $CaCO_3$ ppm	Calcium Ca ppm	Magnesium Mg ppm	Bicarbonate HCO_3 ppm	Sulfate SO_4 ppm	Iron Fe ppm	Manganese Mn ppm	Sodium Na ppm	Potassium K ppm	Chloride Cl ppm	Fluoride F ppm	Nitrate NO_3 as N ppm	Total Solids ppm
Faulkton	1,2	11/77(C)	+0.20	7.9	0	500	107	29	8	610	354	0.6	0.10	486	8	208	0.5	< 1	1415
	2	12/73(R)	-	8.0	0	510	120	33	9	622	357	0.7	0.20	490	9	219	0.5	< 1	1433
	3	11/76(RC)	+0.26	7.9	0	464	127	35	10	566	354	0.7	0.19	459	9	211	0.5	< 1	1402
Onaka	1	1/75	-	-	0	406	206	58	10	495	393	9.5	1.32	469	13	312	0.5	< 1	1596
	2	1/75	-	-	0	316	50	14	3	386	358	0.2	0.18	455	7	240	0.3	< 1	1262
	3	1/75	-	-	0	327	18	2	0	399	260	5.6	0.21	474	8	219	0.4	< 1	1523
		11/76(C)	+0.06	8.0	0	337	86	25	6	411	342	0.1	0.34	456	10	273	0.4	< 1	1323
Seneca	1	12/69	-	7.6	0	133	117	36	6	162	420	0.3	0.70	308	9	180	0.5	< 1	1139
	2-New	9/77	-0.11	8.0	0	146	115	39	7	178	370	0.3	0.52	340	10	217	0.4	0.1	1120
	3-Old	6/75(R)	-	7.2	0	155	175	52	11	189	402	0.8	0.83	331	10	238	0.5	< 1	1187
Hoven	W-1	4/76(T)	+0.11	7.3	0	271	438	125	31	331	189	<0.1	1.61	45	8	34	1.4	0.8	662
	M-2	12/65(R)	-	7.8	0	248	400	104	34	303	249	<0.1	<0.02	62	8	29	0.3	5.0	761
	East	4/76(R)	+0.24	7.2	0	365	504	141	37	445	199	0.1	1.38	58	8	18	3.2	2.8	760
	North	1/76(T)	-0.13	7.2	0	310	349	97	26	378	132	<0.1	1.47	50	7	28	0.5	< 1	570
Glenham	North	11/76	+0.10	7.4	0	686	220	58	18	837	523	0.5	1.05	500	11	56	0.4	< 1	1588
	S-Sby	11/76	+0.14	7.4	0	688	226	61	18	839	496	1.0	1.01	496	11	56	0.4	< 1	1595
Selby	North	8/74	-	7.4	0	288	393	94	37	351	207	1.9	1.16	52	8	7	0.3	< 1	682
	South	8/74	-	7.4	0	299	409	95	40	365	225	2.4	0.95	65	9	7	0.3	< 1	705

(T) - Treated Water
(T*) - Treated Water Partially Softened
(R) - Untreated Water
(C) - Composite Sample

WEB Water Development Association, Inc.

TABLE 1.5

GLACIAL AQUIFER AND GROUNDWATER DATA

Aquifer	Nominal Maximum Thickness (feet)	Nominal Maximum Yield (gpm)	Sulfate (ppm)	Chloride (ppm)	Iron (ppm)	Manganese (ppm)	Total Dissolved Solids (ppm)	Specific Cond. (micromhos/cm)	Hardness ($CaCO_3$ ppm)
Deep James	40	500	8-460	170-970				1,530-3,400	210-520
Middle James	40	500	80-1,300	12-1200	0.2-20	0.2-1.5		679-3,000	180-1,500
Elm	40	500	4-4,000	8-790	0.1-4.9	0.2-0.6		246-5,900	78-3,300
Spring Creek	25	300	Avg. 221	Avg. 36	Avg. 0.22	Avg. 0.44		Avg. 1,141	Avg. 459
Selby	60	333	Avg. 221	Avg. 36	Avg. 0.22	Avg. 0.44		680-1,740	190-660
Grand	175	880	Avg. 279	Avg. 71	Avg. 2.53	Avg. 0.31	740-3,330		50-1,700
Bowdle	50	250	78-302	6-74	<0.01-3.8	<0.02-1.61		420-1,900	200-640
Java	69	50	283	7	0.4	0.03	350-810		230-610
Hillsview	40	200						1,100-1,660	36-630
Onaka	95	480	260-393	240-319	0.1-9.5	0.18-1.32	1,262-1,596		18-206
Twin Lakes	40	200						2,400-2,900	1,300-1,400
Tulare	124	1000	90-630	20-65	<0.05-2.7	<0.05-2.75	200-1,800		546-1,008
Lynn	65	500	225-670	4-243	0.03-0.33	0.01-0.63	750-3,332		417-970
Eastern Lakes	20	500[1]	35-1,000	1-81	0.1-2.5	0.01-0.94	200-2,000		170-1,200

[1] If direct hydraulic connection to lake

WEB Water Development Association, Inc.

TABLE 2.1

CHEMICAL DATA OF MISSOURI RIVER WATER FROM LAKE OAHE

Source of Sample	Date of Sample	Langelier Index @ 50°F	pH	P Alkalinity ppm	T Alkalinity ppm	Total Hardness $CaCO_3$ ppm	Calcium Ca ppm	Magnesium Mg ppm	Bicarbonate HCO_3 ppm	Sulfate SO_4 ppm	Iron Fe ppm	Manganese Mn ppm	Sodium Na ppm	Potassium K ppm	Chloride Cl ppm	Fluoride F ppm	Nitrate NO_3 as N ppm	Total Solids ppm
Eagle Butte - Town	1/78 (T)	+0.34	8.2	0	155	242	60	23	189	[illegible]	0.1	0.03	69	5	15	0.5	0.1	509
Gettysburg - Town	4/76 (R)	+0.77	8.3	0	141	205	50	19	172	167	0.1	<0.02	58	4	5	0.5	< 1	413
	4/76 (T*)	+1.37	9.6	0	64	116	39	5	78	162	<0.1	<0.02	63	4	15	0.5	< 1	341
Mobridge - Town	7/69 (R)	-	7.9	0	150	209	60	14	183	176	<0.1	<0.02	62	4	2	0.5	< 1	438
	4/77 (T*)	+0.97	9.4	12	78	119	29	11	65	164	<0.1	<0.02	59	4	14	1.3	<0.1	329
FoxRidge - Rural Water System	2/76	+0.30	8.2	0	153	228	56	21	187	205	0.1	<0.02	66	4	12	0.5	< 1	471
Powerhouse - Federal	11/65 (R)	-	8.2	0	154	236	59	21	188	243	<0.1	<0.02	87	4	6	0.6	< 1	550
Swiftbird Job Ctr. - Federal	11/67 (R)	-	8.1	9	174	230.	60	19	212	192	0.2	0.10	68	5	8	0.6	< 1	511
	11/67 (T*)	-	8.4	6	112	203	45	22	137	220	<0.1	0.50	68	5	10	0.1	< 1	485
Typical WEB (no softening)						222				197	<0.1	<0.02	68		13	1.2		477
Typical WEB (with softening)						110				197	<0.1	<0.02	68		13	1.2		400

(T) - Treated Water
(T*) - Treated Water Partially Softened
(R) - Untreated Water

SOLAR BUILDINGS RESEARCH PROGRAMS

STATEMENT OF R. RANDALL VOSBECK, AMERICAN INSTITUTE OF ARCHITECTS

Senator BURDICK. Randolph Vosbeck appearing for the American Institute of Architects.

Mr. VOSBECK. Thank you, Mr. Chairman. My name is Randy Vosbeck and I appreciate this opportunity to present the views of the American Institute of Architects on the Department of Energy's solar buildings research program.

I would congratulate this committee for past support of the solar programs. The AIA has been a long advocate for solar buildings research and we continue to be so in spite of some of the proposed reductions.

I am a former president of the American Institute of Architects and am a principal in the architectural engineering firm of VVKR in Alexandria, VA.

The AIA strongly supports the continuation of the solar buildings research program at least at the fiscal year 1986 level of $8.18 million. Through this program, the nation can extend the boundaries of knowledge about solar energy and its practical applications and thereby reduce the consumption of scarce fossil fuels and spawn new industries and jobs, promote American competitiveness in world markets, improve the ability of residential and commercial buildings to incorporate solar energy, designs and systems, and make them more efficient and less costly to operate.

The solar buildings research program has been an important part of the effort to conserve fossil fuels by substituting the power of the Sun. Over the course of the program's existence, it has produced a number of solid accomplishments that have made a measurable difference in the way that architects design buildings and in the way buildings conserve energy.

Architects throughout the country have employed the program's research results in their daily practices of their profession. And we recognize that the program's past successes set the stage for further exciting developments that can hold great meaning for government, business, and the consuming public.

And although previous research advances in solar buildings have been substantial, further research is certainly essential. Critical needs exist for determining the causes of less than adequate performance in certain heating systems. Reliability and durability data for cooling systems are seriously lacking. Passive cooling techniques are largely unexplored. And few of the many residential design tools available have been validated.

Unquestionably much more research remains to be done. Solar buildings research budget has been sharply reduced since fiscal year 1981. In that year, solar buildings research program received $77 million. By fiscal year 1984 that had sunk to $16.3 million. In fiscal year 1986 it now stands at $8.18 million following the Gramm-Rudman reductions.

For fiscal year 1987 the administration proposes only $4.7 million. Now, we understand that DOE will attempt to seek cost-sharing arrangements with the private sector to extend the reach of these Federal dollars. And while we believe that cost sharing may be a reasonable approach to certain product or materials research, we are really deeply concerned about the sizable cuts in system research, and in particular about the lack of funds specifically identified for technological transfer. How to get that information out to the practitioner.

Technological transfer provides the mechanism by which this raw data is packaged into a usable understandable form and transmitted to practitioners and private companies who can put the information to use. As a private practitioner, this research and technical transfer loss is of great deal of concern to me. Most architects are small businessmen, and from an economical point of view, we simply cannot do the research and we must rely upon the Federal Government for data in these important areas of energy design.

We believe that the decline in funding for solar buildings research must stop and that Congress should approve at least the $8.18 million for next fiscal year.

And we have heard that the private sector can pick up where the Federal Government leaves off. And yet, according to DOE, industry is often unable or unwilling to invest in unknown or unproven commodities, even if early research shows long-term promise.

In addition, private industry will frequently reject investments unless they offer near-term profits. DOE also points out that private companies are rarely able to capture the full economic benefits of an investment in basic science and technology. And with an eminent knowledge of the AE design industry and with construction products and manufacturers, I can assure you that this is the case.

In addition, research functions must cut across product lines and the interests of the individual companies and address solar energy in a much broader perspective and deal with the integration of all these individual systems into a total building system.

Most important for the private sector though, the solar buildings program serves as a catalyst for private enterprise, providing the basic data on which rests new building products and systems, and ultimately new business opportunities and jobs. Ironically, the steady decline of this program and, indeed of all energy conservation research programs, impedes the progress of the private enterprise that the cutbacks are designed to encourage.

The AIA believes that the money requested for the continuation of solar buildings research at the fiscal year 1986 level is certainly a modest request, yet this small investment can reap important benefits that we must not let slip through our grasp.

The architectural profession must have this research if we are to continue to make a significant contribution to the conservation of energy with the buildings that we design.

I appreciate this opportunity to offer the AIA's views, and I am happy to answer any questions you may have.

Senator BURDICK. Thank you. The solar buildings research progra has been supported in the past by this committee. I believe the level o funding for fiscal 1987 will be closer to the current level than the 50 percent that was proposed in the budget.

Will that be of some help?

Mr. VOSBECK. That will be of great help. That is exactly what we are asking for, Mr. Burdick.

Senator BURDICK. Thank you.

Mr. VOSBECK. Thank you.

[The statement follows:]

STATEMENT OF RANDALL VOSBECK, THE AMERICAN INSTITUTE OF ARCHITECTS

Mr. Chairman and Members of the Subcommittee, my name is Randall Vosbeck, FAIA, and I appreciate this opportunity to present the views of the American Institute of Architects on the Department of Energy's solar buildings research program. I am a former President of the AIA, and a principal in the architectural firm of VVKR, in Alexandria, Virginia. The AIA, which is celebrating its 129th anniversary, is the professional organization representing the nation's architects. AIA membership totals almost 50,000.

The AIA strongly supports continuation of the solar buildings research program at least at the FY 1986 level of $8.18 million. This is the amount remaining after the first-phase reductions of Gramm-Rudman-Hollings. We believe that this small program is critical to the achievement of national energy policies. Through this program, the nation can extend the boundaries of knowledge about solar energy and its practical applications and thereby, reduce consumption of scarce fossil fuels, spawn new industries and jobs, promote American competitiveness in world markets, and improve the ability of residential and commercial buildings to incorporate solar energy designs and systems to make them more efficient and less costly to operate. In accomplishing these purposes, the federal government's continued leadership must remain a basic ingredient.

The solar buildings research program supports basic research involving building materials, systems, and designs for both residential and commercial structures. The program has been an important part of the effort to conserve fossil fuels by substituting the power of the sun. Over the course of the program's existence, it has produced a number of solid accomplishments that have made a measurable difference in the way that buildings use energy. For example, the program has completed a single family residential building design handbook for passive cooling load avoidance based upon ventilation and shading strategies. It has completed a non-residential passive solar experimental buildings program which showed that passive systems can supply one-third to one-half the energy requirements at no added cost. It has provided design practitioners with a practical solution for daylighting single-story residential buildings. It has developed new holographic window films and light guides for enhanced daylighting deep in building interiors. And it has developed new low-conductance glazing materials and coatings which minimize window heat losses.

As architects, we have employed the program's research results in daily practice of our profession. We recognize that the program's past successes set the stage for further exciting developments that can hold great meaning for government, business, and the consuming public.

The Administration has stated its understanding of the value of renewable energy resources. In the Department of Energy's FY 1987 Congressional Budget "Major Activities Overview" the Department declares, "As the various energy technologies continue to develop, their economic and technological viability should improve and their collective contribution to the Nation's energy needs should continue to increase. Availability of this source of energy is thus a major element of national energy policy."

While the drop in oil prices has dulled memories of gas lines and fuel shortages, we continue to face a long-term and potentially catastrophic energy crisis. Fossil fuel supplies are finite, despite the glut from overproduction. The steady decline in oil consumption that we have enjoyed since 1973, has halted and consumption began to rise in 1984.

A recent study by the University of New Hampshire's Complex Systems Research Center, representing what its sponsors call the "first comprehensive computer analysis of U.S. energy and agricultural resources that extends beyond the year 2000," indicates that the depletion of oil resources will mean a lower standard of living if energy conservation and use of alternative resources do not intervene.

Although previous research advances in solar buildings have been substantial, further research is essential. According to the Department of Energy, in the area of heating systems, critical needs exist for determining the causes of less than adequate performance in certain systems, and to improve system integration. At the same time, reliability and durability data for cooling systems are seriously lacking. In addition, passive cooling techniques are largely unexplored, and few of the many residential design tools available have been validated. Research into the performance of different building types is also still far from complete.

In the face of its own recognition that solar buildings research pays off practically and that much research remains to be done, the Administration has systematically and sharply reduced the solar buildings research budget since FY 1981. In that year, the program received $77.1 million. By FY 1984, it had sunk to $16.3 million, and in FY 1986, it now stands at $8.18 million following Gramm-Rudman-Hollings reductions. For FY 1987, the Administration proposes only $4.7 million. With this reduced amount, DOE would conduct research into such areas as apertures, chillers, and heating and cooling systems integrated in buildings, all at substantially reduced funding levels. We understand that the Department will seek cost-sharing arrangements with the private sector to extend the reach of the federal dollars, particularly in relation to materials research. While we believe that cost-sharing can be a reasonable approach to certain product or materials research, we are deeply concerned about the sizable cut in systems research and about the lack of funds specifically identified for technology transfer purposes. The former provides the basic research most useful to building design because it measures the performance of solar building systems in relation to conventional systems according to different building types. The latter provides the mechanism by which raw research data is packaged into usable, understandable forms, through workshops or printed materials, and transmitted to practitioners and private companies who can put the information to use.

We believe that the decline in funding for solar buildings research must stop, and that the Congress should approve at least $8.18 million for the next fiscal year.

The Administration asserts that the private sector can pick up where the federal government leaves off. Yet in recent Congressional testimony Assistant Secretary for Conservation and Renewable Energy, Donna Fitzpatrick stated that no evidence exists that the private sector has picked up buildings or industrial research and development activities discontinued by DOE. There is no reason to believe that anything different has happened in solar buildings research. Moreover, in the Department of Energy's budget documents, the Department makes a lengthy case why the federal government's investment continues to be essential to successful solar buildings research. According to DOE, industry is often unable or unwilling to invest in unknown or unproven commodities, even if early research shows long-term promise. In addition, private industry will frequently reject investments unless they offer near term profits. DOE states that "Federal R&D investments may be justified in certain instances to encourage longer-term productivity and national returns." DOE also points out that private companies are rarely able to capture the full economic benefits of an investment in basic science and technology.

It is also important to note that many companies have little incentive to research more than their own product lines. Passive solar building designs and the relationships among individual building systems and components and different building types, along with technology transfer, are fully and appropriately within the purview of the federal government to support. Such research functions cut across product lines and the interests of individual companies, addressing solar energy from a much broader perspective than any private company or program can or should undertake alone.

Most important for the private sector, though, the solar buildings program serves as a catalyst for private enterprise, providing the basic data on which rest new building products and systems, and ultimately new business opportunities and jobs. The steady decline of this program, and indeed of all energy conservation research programs, ironically impedes the progress of the private enterprise that the Administration's cutbacks are designed, in part, to encourage. The diminished federal role has in turn diminished the contributions of energy conservation industries and has made them less competitive in world markets. Other industrialized nations spend far greater shares of their national budget for energy conservation and renewable research. According to the Department of Energy, the United Kingdom, France, Japan, and Germany all give higher priority to government expenditures on energy efficiency research and development than the United States. The Canadian government is spending nearly $2 million a year on the study of smart windows. Our whole aperture program would claim only $1.2 million for FY 1987.

The AIA believes that the money requested for the continuation of solar buildings research at the FY 1986 level is a modest request. Yet this small investment can reap important benefits that we must not let slip through our grasp.

I appreciate this opportunity to offer the AIA's views, and am happy to answer any questions you may have.

ILLINOIS WATER PROJECTS

Senator BURDICK. Finally, Governor Thompson of Illinois has written to the subcommittee regarding water projects in his State.

[The statement follows:]

LETTER FROM GOV. JAMES R. THOMPSON OF ILLINOIS

April 16, 1986

Honorable Mark O. Hatfield
Chairman
Subcommittee on Energy
and Water Development
Committee on Appropriations
1322 Dirksen Senate Office Building
Washington, D.C. 20510

Dear Senator Hatfield:

Attached please find five copies of the State of Illinois' proposed project list for the FY 87 budget of the Corps of Engineers. I appreciate your consideration and favorable action on this request.

The attached list identifies those Corps of Engineers projects that are of high priority to the State of Illinois. Each of these projects has been analyzed by four separate Illinois agencies and was found meritorious and worthy of funding from the FY 87 appropriations for the Corps. The projects were analyzed using the most recent information concerning cost, need, local sponsorship and Corps interest. The list includes items contained in the President's FY 87 budget request and others that we propose for special consideration.

I recommend that you include these projects in the FY 87 Energy and Water Development Appropriations Act. Should you require any supporting documentation for these projects or other information, please don't hesitate to contact Donald R. Vonnahme, Director, Illinois Division of Water Resources, at 217/782-2152. I request that this correspondence be included in the hearing record of the Subcommittee.

Sincerely,

James R. Thompson

James R. Thompson
GOVERNOR

Fiscal Year 1987
STATE OF ILLINOIS
TESTIMONY ON APPROPRIATIONS
FOR
U.S. ARMY CORPS OF ENGINEERS
CIVIL WORKS PROGRAM
APRIL 1986

The State of Illinois supports the following projects which are contained in the President's Fiscal Year 1987 budget.

SURVEYS

Alexander and Pulaski Counties	$ 400,000
Diversion of Lake Michigan	230,000
Illinois River between Henry and Naples	330,000
Illinois Shore Erosion	415,000
Loves Park (CP&E)	490,000
St. Louis Metropolitan Area	1,054,000

CONSTRUCTION

Brandon Road Lock & Dam (Rehab)	5,470,000
Kaskaskia Island Drainage & Levee District	2,300,000
Lock and Dam No. 26	85,000,000
Lock and Dam No. 26 Second Lock	2,000,000
Locks and Dam No. 53 (Rehab)	1,700,000
Mauvaise Terre Drainage & Levee District	500,000
Rockford	950,000
Smithland Locks and Dam	486,000
South Quincy Levee & Drainage District	1,000,000
Upper Mississippi River Environmental Management Plan	1,000,000

OPERATIONS AND MAINTENANCE

Illinois supports the Corps' budget request for continued adequate maintenance and operation of completed navigation and flood control projects in and bordering the state.

NAVIGATION

Lower Ohio River Navigation Project: Illinois supports efforts to improve navigation on the Lower Ohio River. We are currently reviewing the Corps of Engineers report on the Lower Ohio River, and will be discussing the report in detail with the Corps. While we support continued engineering studies for navigation improvements, we suggest that part of the $1.5 million budget request be used for additional study of the new lock and dam at Olmstead. This study should specifically assess the environmental impacts of the proposed higher pool level on Illinois nature preserves and aquatic floodplain habitat. The study should also include testing the design of the open pass portion of the proposed dam.

Wabash River Navigation Study: The budget request also includes $200,000 for the Wabash River Navigation feasibility study. The State of Illinois supports Corps projects found to be economically feasible and environmentally sound. This project was studied by the Corps in 1977 and found to be economically infeasible. Any re-analysis of this proposal should emphasize the economic costs and benefits associated with the project and potential environmental impacts.

In addition to the projects in the President's budget for which we have indicated support, the State of Illinois also has additional needs and priorities which are listed below.

SURVEYS

North Branch Chicago River (CP&E)	$ 230,000

CONSTRUCTION

Upper Mississippi River Environmental Management Plan--this represents an increase from the FY 1987 request level of $1,000,000.

$3,900,000

CONTINUING STUDIES FOR ILLINOIS

Floodplain Management Services	$ 500,000
Section 22 of PL 93-351	200,000

BILL LANGUAGE

Illinois Beach State Park: Over the past few years, Congress has supported funding for the Interim I study of Illinois Shoreline Erosion. This study is an investigation of shoreline erosion problems along the Illinois shore of Lake Michigan between the Illinois-Wisconsin State line and the City of Waukegan. The major portion of the shoreline is included within the Illinois Beach State Park. Work on this effort has stopped at the Corps' Chicago District level and the Corps has indicated that a final feasibility report recommending Federal action will not be pursued. This action by the Corps is taken even though the Corps' own report has indicated a positive cost/benefit ratio for the section of the shoreline encompassing the public beach.

Illinois would like to request that your committee adopt bill language to direct the Corps to submit this report through the normal Corps review and to issue a Chief's report. The language should indicate that "such sums as are necessary" be made available for the Corps to process the report through its channels.

Thank you for your attention to Illinois' concerns.

NATIONAL WATER RESOURCE ISSUES

STATEMENT OF CHARLENE DOUGHERTY, DIRECTOR OF LEGISLATION, NATIONAL AUDUBON SOCIETY

Senator BURDICK. Our next witness is Ms. Charlene Dougherty, director of legislation, National Audubon Society.

Welcome to the committee.

Ms. DOUGHERTY. Thank you, Senator Burdick. I assume my statement will be included in the record?

Senator BURDICK. Without objection.

Ms. DOUGHERTY. Thank you.

The prepared statement that I have submitted to the committee covers three Bureau of Reclamation projects: the Garrison diversion project, the Prairie Bend project, and the Cliff Dam, which is part of the Central Arizona Project.

In the interest of time, I will confine my oral statement to a discussion of the Garrison project, although I think Mr. Burdick knows the details perhaps better than I.

GARRISON DIVERSION UNIT, ND

First of all, I would like to thank you, Senator, very much for the leadership you have shown in helping to bring us to the point where we are with regard to Garrison. A great deal has been achieved in the last year and I think the working relationships between the conservationists and the political leadership and the conservancy district in the State has improved greatly.

I would also like to thank you and the committee for agreeing in 1984 to language in the Energy and Water appropriations bill which established the Garrison Commission which I think we will all agree was a great watershed. Excuse the pun on that.

But the commission was charged with looking at alternatives to Garrison and developing recommendations for a project that would meet the contemporary water needs of North Dakota and would address the environmental and international concerns.

In December 1984 the commission made its recommendation and then the work for all of the rest of us was really cut out as we attempted to put the recommendations of the commission into legislative language. And as you well know, there have been stops and starts throughout all of last year as we attempted to work out legislation. And we appreciate the leadership that you have shown in that regard, Senator Burdick.

A breakthrough finally came just this spring and just before Easter the House Interior Committee reported H.R. 1116, a bill reformulating the Garrison project. The bases for the bill are the findings and recommendation of the Garrison Commission with some modifications.

I think we all worked very hard trying to put that legislation together. We strongly support that legislation and we hope that both the House and the Senate will move quickly to enact that legislation.

On the conservation side, the National Wildlife Federation and the North Dakota Chapter of the Wildlife Society also support this legislation and we are very happy that we were able to come together and finally reach an agreement on what has been a very difficult problem for all of us for many years.

FUNDING RECOMMENDATION

With regard to the funding for Garrison, I find myself in an awkward position where we are eager to see the authorizing legislation move forward on as fast a track as possible, but because that legislation is not yet enacted and because Garrison traditionally has faced a very long and rocky road in Congress and we do not know if Congress will in fact approve that legislation as it was reported out of the committee, we cannot support funding for the project at this time. Once Congress does enact that legislation, we will be happy to support funding to build the new project. But since we do not know now what the money will be used for, we cannot support the funding for the project.

We are sorry that the timing is such that the appropriations is preceding the authorizing bill, but that is the position that we find ourselves in.

Our major concern is that if we do not have reformulating legislation at this time, that at the end of the year the Secretary of Interior will once again have the authority to build the old Garrison project, which is a project that we and the other conservation groups strongly oppose.

Just a few words about why we hope this committee will support the legislation that is now before the House. The House should take up the legislation in Rules Committee this week and on the House floor next week or the following week, and we are going to work as hard as we can to see that it is enacted.

This legislation, as you know, deauthorizes a fair portion of the original million acre authorization. It reverses the emphasis of the project from an irrigation project to an M&I project. It locates the irrigation outside of the Hudson Bay drainage, and it provides for better wildlife and wetlands protection.

We are hopeful that that legislation will be enacted speedily by the House and will come to the Senate side perhaps even before this bill goes to the Senate floor, at which time we could support legislation or appropriations for the new project.

I will conclude my remarks. I know that you know the details of this and I do not really need to talk to you about all of the specifics in the package.

[The statement follows:]

Statement of Charlene Dougherty, Director of Legislation, National Audubon Society

Thank you for the opportunity to appear before you today. I am Charlene Dougherty, Director of Legislation for the National Audubon Society. The National Audubon Society is one of the nation's oldest and largest conservation organizations, with over one-half million members and 550 chapters nationwide.

While National Audubon has concerns about a number of water projects and related resource issues, I will confine my remarks and statement to three Bureau of Reclamation projects of immediate concern: the Garrison Diversion Unit in North Dakota, the Prairie Bend Project and related developments along the Platte River, and Cliff Dam, a component of the Central Arizona Project.

Garrison

This committee has been very supportive of efforts to achieve a compromise resolution to the Garrison controversy. In 1984, you agreed to a provision on the FY85 Energy and Water Appropriation bill creating the Garrison Commission. The commission, as you recall, was charged with developing recommendations for an alternative to the authorized project -- an alternative which provided for the contemporary needs of the State of North Dakota and which reduced the project's environmental and international impacts.

The final report of the commission was transmitted to Congress in December 1984. It forms the basis for legislation recently reported from the House Interior and Insular Affairs Committee (HR 1116, a bill reauthorizing the Garrison Diversion Unit) and now awaiting House floor action. The Garrison Commission found that the most pressing water resource development need in North Dakota was for municipal, rural, and industrial (MR & I) water supplies. A large portion of North Dakota's citizens simply do not have adequate and reliable supplies of safe water. Accordingly, the commission recommended an alternative project emphasizing MR & I development and substantially scaling-down the irrigation acreage.

Translating the commission's recommendations into legislation upon which the major parties to the Garrison controversy could agree upon turned out to be a formidable undertaking. This committee recognized the difficulty and last year agreed to language in the FY86 Energy and Water Appropriations bill conditioning availability of most of the FY86 funds for the project upon enactment, by March 31, 1986, of legislation reformulating Garrison. The March 31 deadline has passed and legislation reformulating Garrison has not yet been enacted.

The Administration has requested $18 million for Garrison in FY87. Part of the $18 million is to be used for project shut-down activities and part of the funds are to be used for some construction activities. Legislation reformulating Garrison has not been enacted, and legislation recently reported by the Interior Committee appears to have a long and difficult road ahead. Therefore, the National Audubon Society cannot, at this time, support the appropriation of any funding for the project except those funds specifically required for project shut-down. We do not know nor can we predict if the reformulated project will be approved by the Congress. If it is not approved by this Congress, the authorized project -- the old Garrison with all of its environmental and international problems -- remains "on the books." If funds are made available at this time, and if Garrison is not modified by Congress, the Secretary of Interior could resume building the old Garrison project, a result we would fervently oppose.

We support the legislation reported by the Interior Committee reformulating Garrison. If HR 1116 is enacted without substantive change, we will then support funds for construction of the project authorized by that bill.

For the past year, Audubon and other conservation interests have been engaged in lengthy and difficult negotiations with officials representing the State of North Dakota and North Dakota water development interests. It has not been an easy process for any of the parties. Our objectives were to develop a compromise plan which we could all support and to end the historic feud we have waged over this project. In other words, we tried to make peace and begin to work together to provide North Dakota with a sensible water resources development program and to protect its very special wetlands and wildlife resources.

An agreement was reached just a few weeks ago. Part of the agreement is contained in the text of HR 1116. The other part of the agreement is a pledge that we all will work together to get the legislation enacted by this Congress and that we -- the parties to the agreement -- will not agree to any substantive changes to the bill. The compromise is a fragile one, consisting of a careful balance between competing concerns and interests which could easily unravel.

We all recognize, too, that times are changing in Congress with regard to approving the construction of large water projects. The legislative road ahead -- the House floor and Senate consideration -- may well be difficult and controversial. It may be that in spite of our best efforts, the legislation will either not pass the Congress or it will be so altered that the parties to the compromise can no longer support it. We sincerely hope this is not the case. We would like to take this opportunity to urge you to support HR 1116 when it comes to the ~~House~~ Senate floor in several weeks and appropriate funds for the project if and when HR 1116 is approved by the entire Congress and signed into law .

From a water development, environmental, and fiscal standpoint, the project authorized in HR 1116 is a vast improvement over the old Garrison project. A few highlights seem to be appropriate. The committee bill deauthorizes more than 900,000 acres -- almost 9 out of 10 acres -- from both the 1944 and 1965 authorizations; it locates irrigation outside the Hudson Bay drainage, thereby addressing some of the major Canadian concerns; it requires that Lonetree Valley be managed for wildlife purposes; it protects the unique Kraft Slough by making it a National Wildlife Refuge; it provides a municipal rural, and industrial water supply program for the state; it requires the execution of new repayment contracts prior to start of construction of major new features thereby tightening up the repayment of reimbursable costs to the government; it sizes-down certain project features so that dollars will no longer be spent to build oversized facilities; it imposes a penalty on irrigators using project waters to grow surplus crops; and it provides for better wildlife and wetlands protection through improved mitigation procedures and the establishment of a wetlands trust. Special concerns raised by citizens in North and South Dakota about impacts of the new project on the James River will be addressed through a special, in-depth study to be conducted by the Department. No construction directly affecting the James River will go forward until completion of the study.

From a water development standpoint, the compromise fully recognizes and provides for the present day needs of the State. From an environmental standpoint, there are some benefits in substantial reduction in irrigation development and important added wildlife protection measures. From a cost standpoint, the compromise is admittedly expensive, but is far less costly than the original project. Nearly one-half billion dollars in potential project costs are saved by the deauthorization of irrigation alone. And Canadian objections to irrigation on the Hudson Bay watershed are addressed, helping to defuse an awkward problem creating friction in US/Canadian relations.

As I am sure you will agree that it is unusual for developers, the conservationists, and other interested parties to get together and work out an agreement of this complexity -- especially over a project of such long-standing controversy. You and your committee played an important and constructive role in bringing about this result for which we commend and thank you.

Platte River

The National Audubon Society is deeply concerned about water development along the Platte River. This river provides habitat for the Whooping Crane, Bald Eagle and Least Tern, all endangered species, and for the Piping Plover, a threatened species. More than one-half million Sandhill Cranes stop along a short stretch of the Platte for a few weeks each spring during their migration from the Gulf Coast to breeding grounds in northern Canada, Alaska, and Siberia. This is the largest congregation of cranes in the world, providing an amazing wildlife spectacle (which draws tourists in ever increasing numbers from all parts of the globe). In addition, millions of ducks and geese and several hundred different species of other migratory birds use the Platte River each year.

The Platte provides very specialized habitat to these birds. Cranes, for example, must have wide stretches of shallow water, preferably with bare sandbars to roost free of predators, and adjacent wetlands and fields for feeding. The cranes use the Platte River habitat each spring to feed and acquire the necessary nutrients and weight to make the long journey to their breeding grounds. The small remaining area of suitable habitat is crucial to the continued survival of not only the Whooping Crane, but to the sandhills as well.

The Platte, however, is a river under extreme stress. Substantial development has already occurred. The river is now at 30% of its historic flow; it has been so channelized, developed, and regulated that wildlife habitat has been reduced as much as 90%. Development of even a portion of the proposed additional projects -- private and federal -- could easily use up the total remaining flows in the river. A zero sum situation has been reached on the Platte where each additional increment of development creates disproportionately large losses of the non-development amenities of the river -- to fish, wildlife, recreation, tourism. Any new development or changes in the present management and use of the river cannot be made in isolation; cumulative impacts of projects, existing and proposed, up and down the river must be evaluated and considered as decisions on individual new projects are made. Solid and current scientific data assessing these impacts must be available and made part of the decision-making process before irreversible committments are made and irreplaceable losses occur.

Key to protecting the Platte River for all of its many uses -- including providing for water supplies for cities and communities, for the cranes and other wildlife, for tourism, and for irrigation -- is the determination and maintenance of adequate instream flows. The current situation, even absent of new project development, must be improved in this regard because habitat is continuing to deteriorate and wildlife resources are declining. Instream flows take on added urgency because of the number of proposed projects and project-related activities occuring on the Platte. The information required to determine adequate instream flow levels to maintain and improve the Platte River resources needs to be developed and developed soon.

Of most immediate concern to this committee is the Administration's request for $400,000 for continuation of a feasibility study for the Prairie Bend Unit. The Bureau has indicated that it will annnounce its preferred alternative in May of this year. But it is currently operating in a major information vacuum. The Bureau does not have the scientific data it needs, nor has it completed the additional studies which it must have to make a reasoned decision about what kind of project is appropriate, if any, or the impacts of such a project.

We are not opposing the appropriation of money for continued studies, but we are asking this committee to provide clear direction to the Bureau about how that money should be spent. Because the Bureau seems embarked upon a course of action to do the engineering and develop a project design before the benchmark environmental studies are done -- and in some cases before they are even begun -- we are forced to ask the committee to direct the Bureau to postpone further work on a specific project design now and instead to develop the data we all need to make decisions concerning future development of the Platte. Accordingly, we ask that you instruct the Bureau to use this appropriation to -- at a minimum -- verify the hydrologic models for the Platte; develop species models for the various wildlife dependent upon the Platte, including the Whooping and Sandhill Cranes, Bald Eagles, Least Terns, Piping Plovers, waterfowl, and various fish; to develop daily flow models for the Platte from Lewellen (N. Platte) and Julesberg (S. Platte) to Duncan , and to develop a sediment transport model. Further, it is our understanding that the Fish and Wildlife Service may be unable to carry out its present obligations to do Platte River studies because the Bureau is providing insufficient funding. The funds needed by FWS to do its research work on the Platte, including the additional studies we are recommending, should be made available by the Bureau from this appropriation.

Finally, it is critical that the studies done in connection with Prairie Bend not be done in isolation from the other investigations and work being done on the Platte. We cannot emphasize enough that decisions made with regard to the Narrows project and the FERC relicensing at Lake McConaughy and the decisions concerning Prairie Bend are interrelated. One cannot be done in isolation from the other; all impact each other. To date, there is a lack of coordination. We urge the committee to insist that the river be looked at, studied, developed, and protected in a unified way. This can be achieved, in part, by directing that some of the funds for the Prairie Bend study be used for coordinating this study with the Platte River Joint Management Study.

There are a number of important decisions to be made in the near future which will determine the very existence of the Platte and its tremendous resources -- wildlife and otherwise. We must not let these decisions slip away from us by default -- by focusing so much on individual projects that we lose sight of what is really happening up and down the river. By pushing ahead on Prairie Bend, the Bureau is forcing us into a confrontational mode. We do not want that , nor I am sure, do you. We are urging that this committee defuse the time bombs ready to go off on the Platte and insist that the critical studies and information be developed before major decisions affecting Platte River flows are made.

CLIFF DAM

The proposed Cliff Dam project on Arizona's Verde River is one of the most environmentally and economically costly components of Plan 6 of the Central Arizona Project. Construction of Cliff would not only place an unfair burden upon federal taxpayers, but would destroy an ecologically unique segment of free-flowing river and jacent stream habitat. Fifty miles of riparian land surrounding the site would be destroyed or severely degraded by project construction, an area that provides prime habitat for four of the thirteen known breeding pairs of endangered desert-nesting Bald Eagles.

The Bureau of Reclamation claims that Cliff would provide Arizona residents with needed flood control and water storage benefits. However, analysis of this assertion discloses that the motive for construction of Cliff is not flood control. The Bureau of Reclamation itself acknowledges that other alternatives that are available. Cliff Dam is, rather, a project that would make available thousands of acres of land for commercial and residential development in Phoenix. A federal subsidy for this type of development in one of the nation's most prosperous and fastest developing regions is incomprehensible. As for the need for water storage, the proposed Rio Salado Development District associated with the project would actually consume more water than is made available by the dam.

The Bureau of Reclamation has requested $326,000 for FY87 for such preconstruction activities as associated with fish and wildlife studies and potential mitigation procedures. We oppose this appropriation, as construction of the project would be environmentally objectionable under any circumstances. This is one of those situations where the environmental losses simly cannot be mitigated. Further, Cliff Dam is not a necessary part of the Central Arizona Project and simply does not need to be built. Accordingly, any expenditure of funds for any purpose relating to Cliff Dam is a waste of money.

Another aspect of the Cliff Dam and Plan 6 funding troubles us deeply. Last spring, the Department of Interior announced that it would be using funds from the Federal Reclamation Dam Safety Program to carry out needed dam safety work in Arizona. While we applaud the purposes of the dam safety program, in our view the Bureau is abusing its authority under that program. Specifically, the Department has announced that it intends to spend funds from the dam safety program for the construction of a new dam, Cliff, as part of its safety work. Both the law and the legislative history prohibit the use of dam safety funds for the constructiuon of new features. The department has attempted to defend its intention to use dam safety funds for Cliff, but its defense is woefully weak. We think the legislation history of the Dam Safety Act is clear. Its funds are to be used to repair and strengthen existing dams, not to build new ones.

We would suggest that this committee may want to carefully examine the Bureau's use of its dam safety funds. Building Cliff Dam with dam safety funds, in our view, is simply another tactic to construct the Central Arizona Project on a fast track, and in so doing, divert funds away from other more deserving projects. Thus, in addition to requesting that you not appropriate funds for preconstruction activities associated with Cliff, we would also ask you to direct the Bureau to not spend dam safety monies at all on the proposed Cliff Dam.

We appreciate the opportunity to appear before your committee. We will be pleased to provide any additional information you need about these projects.

Senator BURDICK. The staff just advised me that the authorization will probably come before the appropriation does because it will probably be later in the year before you get the appropriations.

Ms. DOUGHERTY. That would be very helpful for all of us if we could move the authorization bill along quickly. I think it would make the process move speedily.

The House is moving on a fast track right now. And I am hopeful that we can get it to the floor by the end of April. And I am hopeful that the House will enact it, but it is a controversial project, as you well know.

Senator BURDICK. Thank you.

Ms. DOUGHERTY. Thank you.

PREPARED STATEMENT OF NATIONAL WILDLIFE FEDERATION

Senator BURDICK. Without objection, the prepared statement of the National Wildlife Federation will be made part of the record at this point.

[The statement follows:]

STATEMENT OF EDWARD R. OSANN, DIRECTOR, WATER RESOURCES PROGRAM, NATIONAL WILDLIFE FEDERATION

My name is Edward R. Osann. I am the Director of the Water Resources Program of the National Wildlife Federation. The Federation, with over 4.5 million members and supporters nationwide, is America's largest conservation organization, now entering our 51st year of conservation advocacy and education. During the past 15 years alone, our membership has adopted more then 60 resolutions establishing Federation policy on various aspects of water resource conservation and development. The Federation and its affiliates have a history of working with state officials and the Federal construction agencies to resolve differences over water projects and policies. We have strongly supported legislative efforts, on both appropriation and authorization bills, to redirect the Federal water resources development program.

GENERAL BUDGETARY ISSUES

Water Resources

We believe that the Administration's request of $3.7 billion in new budget authority for water resources development, an increase of nearly $200 million above that provided for Fiscal 1986, is excessive and inappropriate. We recommend that the Administration request for the Corps of Engineers and the Bureau of Reclamation budgets be reduced by $500 million.

In light of the ongoing Federal budgetary dilemma, every effort should be made to eliminate wasteful and unnecessary spending, while sustaining critically important functions of the Federal government. Regrettably, many projects now under construction by the Bureau of Reclamation and the Corps of Engineers are indeed wasteful and unnecessary, by any objective contemporary view of efficiency and national need. We cannot support increases for such environmentally damaging construction activity at a time when the Fish & Wildlife Service faces a 22.5 percent cut from its Fiscal 1986 level, and the Environmental Protection Agency struggles with wholly inadequate resources to tackle critical issues such as toxic waste disposal.

The Bureau of Reclamation is now accelerating construction on such costly and controversial projects as the Central Arizona Project and the Central Utah Project. We believe that expenditures for these projects and others can be stretched out to reduce outlays in the coming year, and to encourage the reformulation of such projects into less costly and less environmentally damaging configurations. Similarly, the Corps has numerous projects, such as the Red River Waterway and other inland navigation expenditures, which can be stretched out, reduced, or eliminated altogether with little impact on essential transportation services.

Uranium Enrichment

For several years, conservationists have proposed that Federal uranium enrichment activities be operated on a more businesslike basis, to send the appropriate signal to the marketplace about the relative values of conservation and consumption of enriched uranium. At this time, we strongly object to the Administration's plan to write off some $4 billion, more than half of the unrepaid Federal investment in the uranium enrichment program. The effect of this write-down is to condone the underpricing of uranium enrichment services to nuclear utilities, and to perpetuate a significant Federal subsidy of nuclear power consumption. We urge the subcommittee to carefully review the Department of Energy's repayment plan, and to take the steps necessary to ensure that DOE does not take administrative action, such as the new enrichment criteria proposed January 29, which violates the full cost recovery provisions of the Atomic Energy Act.

WATER RESOURCES PROJECTS

Yazoo Backwater Pumping Plant, Yazoo Basin Project, Mississippi

The Federation is strongly opposed to the $186 million Yazoo Backwater Pumping Plant, an enormous facility intended to drain seasonal high water from the bottomlands of the Yazoo Delta just north of Vicksburg. This pumping plant would have a capacity of 17,500 cubic feet per second. By way of comparison, this is greater than the average annual flow of the Delaware River.

Nearly 80% of the project's benefits are derived from additional production of agricultural commodities on poorly drained cropland, and the induced clearing of additional forested wetlands for conversion to cropland, contrary to the policies embodied in the 1985 Farm Bill.

The remaining wetlands in the Yazoo Backwater Area are one of the most important wintering areas for migratory waterfowl in the state. Indeed, the significance of this habitat to the migratory birds of the Mississippi Flyway was underscored by the adoption of a resolution opposing the Yazoo Backwater Pumping Plant on March 23 by the Mississippi Flyway Council. The Council is one of the four flyway councils established to assist in the administration of our migratory bird programs and treaties, and consists of the wildlife agencies of 17 states and Canadian provinces.

Although we are unalterably opposed to the construction of a pumping plant, we do not object to more carefully targeted flood damage reduction measures, or to further assistance to financially distressed farm operators in the project area. I am pleased to report to the subcommittee that the Federation, in conjunction with our Mississippi affiliate, the Mississippi Wildlife Federation, has developed a predominantly non-structural alternative to the Pumping Plant that is:

- far less expensive;
- environmentally sensitive; and
- provides more benefits to more people in the Delta than the project proposed by the Corps.

We will be discussing our alternative with Representative Franklin and other members of the Mississippi Congressional delegation within the next 10 days. We look forward to working with this subcommittee to secure approval and funding for this compromise proposal, in the interest of avoiding the controversy and uncertainty that would be associated with further attempts to fund the Pumping Plant.

Elk Creek Lake, Oregon

The Administration has requested no new funding for construction of Elk Creek Lake. We strongly support this recommendation. Assessments by both the General Accounting Office and the Corps of Engineers have found this project to be severely lacking in economic feasibility. This fact, together with the environmental threats posed to the Federally-protected Rogue River downstream and with current Federal budgetary difficulties, make a compelling case against any further expenditure of Federal funds for this unsound project.

Cliff Dam, Central Arizona Project

Cliff Dam is a $385 million project proposed by the Interior Department's Bureau of Reclamation. It is to be built on the Verde River at a site within the Tonto National Forest, about 40 miles northeast of Phoenix.

If built, Cliff Dam will inundate up to 8,700 acres of the national forest, destroying six miles of the Verde River and its desert streamside habitat on which bald eagles and other wildlife depend.

The increased real estate value of undeveloped river bottom land in Phoenix and its suburbs, which is downstream from the proposed dam, accounts for nearly half of the economic benefits claimed for Cliff Dam by the Bureau.

Cliff is an unnecessary add-on to a larger package of development projects -- known as "Plan 6" -- which would complete the $4 billion Central Arizona Project. Water storage, flood control, and improvement in the safety of existing dams -- all benefits claimed by the Bureau -- can be achieved without constructing Cliff and at less overall cost to the Treasury. (see attachments.)

- The Bureau of Reclamation has requested $326,000 for FY 87 for preconstruction studies for Cliff Dam. We believe that enough is known about the relative merits and demerits of this project for the Congress to make a decision at this time not to commit Federal funds to this dam. A decision now to strike funding for Cliff will allow local project sponsors to make plans -- both physical and financial -- under conditions of greater certainty than would prevail if studies for this controversial project are continued into the future. We urge the subcommittee to reject any request for funding for Cliff Dam.

Bonneville Unit, Central Utah Project

Last year, the Congress conditioned the availability of funding for new land acquisition and new construction of the Bonneville Unit upon the execution of a supplemental repayment contract with the local project sponsor to ensure repayment of all project costs allocated to municipal and industrial water supply. An election was held in Utah on November 19 resulting in local approval of a supplemental repayment contract. Regrettably, the contract negotiated by the Bureau of Reclamation's regional office and approved by the voters was deficient. This finding was made by the General Accounting Office prior to the election, and was made known to both the Bureau and the local sponsor well before the election. According to GAO, up to $97 million in interest charges that are properly the responsibility of local interests are not secured by the supplemental contract. Accordingly, we believe that it is once again appropriate for this committee to insist upon full and timely repayment, secured by contract. We urge that the Bureau's FY 87 request of $83.8 million for the Bonneville Unit be withheld in the absence of unequivocal assurances that non-Federal interests will repay all reimbursable costs allocated to municipal and industrial water supply.

Dolores, Colorado

We call the committee's attention to a continuing problem with the allocation of costs of the Dolores project that will, if unabated, serve to underprice such reimbursable project outputs as commercial power and municipal and industrial water.

Public Law 98-569, the Colorado River Basin Salinity Control Act Amendments, authorized salinity control as a purpose for the Dolores project, and combined features of the McElmo Creek Unit of the Colorado River Water Quality Improvement Program with the Dolores Project, with the following proviso:

> And provided further, that such allocation of costs to salinity control will include only the separable and specific costs of these specific facilities and will not include any joint costs of any other facilities of the Dolores participating project.

Notwithstanding this clear statutory direction, the Bureau noted the following in its FY 86 request for Dolores:

> The allocation of costs to the salinity control function includes $7,961,000 in additional reallocated costs which are not associated with the provision of specific project features associated with the McElmo Creek Unit and are the net result of the reallocation of a portion of project costs to the provision of a new function.

In response to this disregard for the law, the House Appropriations Committee Report on the FY 86 Energy and Water Development Appropriation Bill (H. Rept. 99-195) contained the following statement:

> The committee shares the interest of the Administration in the full and timely recovery of reimbursable costs incurred by the Federal government in the Reclamation program. This heightened interest in cost recovery makes it all the more necessary that established procedures for cost allocation - whether

> set by formal administrative action or by statute - be scrupulously followed. The Committee is not convinced that the latest allocation of costs for certain projects as presented by the Bureau of Reclamation to the Committee, represent an accurate interpretation of statutory requirements and legislative intent. The Committee's approval of annual appropriations requests for these projects is not to be construed as a Congressional sanction for any such departure from previous statutory guidance on cost allocation.

This language was subsequently affirmed in the Conference Report on the FY 86 Bill (H. Rept. 99-307).

Unfortunately, the Bureau's justification material for its FY 87 request for Dolores contains a cost allocation that once again fails to comform with the requirements of PL 98-569 or the policy of the House Appropriations Committee. Under these circumstances, we believe that the Bureau's FY 87 request of $20.4 million for Dolores should be contingent upon tne development and transmittal to the Congress of a satisfactory allocation of costs to all project purposes.

Garrison Diversion Unit, North Dakota

The Federation has been actively involved in negotiations leading up to the March 19 approval by the House Interior Committee of H.R. 1116, the bill to reformulate the Garrison Diversion Unit. We strongly support the enactment of this legislation, and have agreed to support the appropriations necessary for implementing all purposes of the project, as reformulated.

Enactment of H.R. 1116 is, however, by no means assured. We continue to believe that the current authorization for the construction of the Garrison Diversion, PL 89-108 (1965) provides no tenable basis for the further expenditure of Federal funds. Pending enactment of H.R. 1116, we urge the committee to refrain from including any new funding for construction of the Garrison Diversion in the FY87 Energy & Water Appropriations Bill. Upon enactment of H.R. 1116, we would support supplemental appropriations or reprogramming of previously appropriated funds to promptly initiate work on the modified project.

Prairie Bend Unit, Nebraska

We urge the committee to carefully review the progress, or lack thereof, of the Prairie Bend study now underway in the Platte River Basin of Nebraska. The outstanding natural values of the Platte, such as its use by nationally significant concentrations of migratory birds, including the endangered whooping crane, call for the development of a technical database of the highest caliber. We urge the committee to discourage the Bureau from committing study funds to the engineering of specific project features until the essential hydrological and biological data have been assembled and modeled to the satisfaction of all interested study participants.

Columbia Dam, Tennessee

The Tennessee Valley Authority recently issued a revised benefit-cost analysis on the Columbia Dam that estimates only 40 cents in benefits would be returned for every dollar of the $159 million required to complete the dam. As planned in 1968, the Duck River project was to include Normandy and Columbia Dams to provide flood damage reduction, municipal and industrial water use, recreational opportunities, and improved water quality. Normandy Dam, which was completed upstream from the Columbia site in 1972, provides a major portion of the benefits that a two-dam system would obtain. Therefore, the incremental benefits of adding Columbia would be small relative to the large costs of completing the project.

The potential flood damage at the city of Columbia is being reduced by the gradual removal of structures in the flood plain. This approach is much less expensive and more desirable than permanently flooding ten times as much land as would be protected by a dam. We urge the committee to resist any efforts to make FY 87 appropriations available for this obsolete project.

New Starts for FY 87

The selection and timing of new starts -- the initial year of appropriations to construct a water project -- has been one of the most contentious and controversial issues faced by this subcommittee for the last decade. This year, the prospect of enactment of H.R. 6, the Omnibus Water Resources Development Bill, suggests that the range of choice before the subcommittee may be considerably broadened. We have three recommendations to offer. First, we urge you to refrain from appropriating second-year funds to those FY 86 new starts where local interests are unable or unwilling to enter into cost-sharing agreements satisfactory to the Administration. These include Animas-LaPlata and Parker Lake. Second, we recommend that any FY 87 new starts be contingent upon both the enactment of any necessary authorization, and upon cost-sharing under terms contained in the Omnibus Bill or satisfactory to the Administration. Third, we recommend that consideration be given to the initiation of funding for mitigation of damages to fish and wildlife habitat from completed projects, such as the Tennessee Tombigbee Waterway Mitigation Plan.

Power Marketing Administrations

The Administration's proposal to de-Federalize the Federal power marketing administrations (PMA's) over the next 4 years warrants careful review. Based on data currently available, we do not believe that a transfer of ownership of the Bonneville Power Administration from the Federal government to non-Federal interests will necessarily advance the public interest. Conversely, however, we believe the current operating record of the other four PMA's fails to demonstrate that their retention in Federal ownership serves the public interest.

Given the current state of budgetary limitations, environmental considerations, and evolving conditions in the electric power industry, the Administration's proposal, and all reasonable alternatives, deserve a thoughtful and rigorous evaluation. We are urging the Department of Energy to undertake a full evaluation of the de-Federalization proposals, and reasonable alternatives, pursuant to the National Environmental Policy Act. NEPA provides a useful framework for developing and evaluating policy options before a final decision is reached. We have suggested that de-Federalization proposals for each PMA be the subject of a separate environmental impact statement.

Because we believe that the NEPA process should be brought to bear on this issue, we urge the committee to reconsider its prohibition against the study of market-based pricing of Federally generated hydropower with funds appropriated to the Department of Energy. Market-based pricing can and should be evaluated as one of several alternatives to the Administration's de-Federalization proposal. The reenactment of the prohibitory language contained in previous Energy and Water Development Appropriation Acts would constrain unduly the NEPA process and deny Congress and the public a portion of the data needed to make an objective appraisal of the Administration's proposals for the PMA's.

Thank you for the opportunity to present these views.

[From the Arizona Republic, June 4, 1985]

MESA BUYING FARMLAND FOR WATER RIGHTS—CREATION OF WASTELAND FEARED BY PINAL COUNTY

By Barbara Rose, Southeast Valley Bureau

MESA—The City Council on Monday authorized buying an additional 1,930 acres of farmland for water rights, pushing Mesa's future land holdings in rural Pinal County to about 18 square miles.

The land deals are the most recent in a buying spree by Mesa that Pinal County officials fear will result in a "wasteland" between Coolidge and Eloy, where the farmland is located, unless Arizona's ground water code is changed.

Mesa plans to leave the farmland idle so ground water eventually can be pumped from there for Mesa's growing population.

Coolidge City Manager Gene Wieneke has said his city's attorneys have found no way to stop Mesa from withdrawing the water.

"They (Mesa officials) have done their homework under the existing ground water law," Wieneke said. "Our big concern is the creation of a desert."

He said Coolidge and other cities will ask the state Legislature next session to amend Arizona's ground water code to allow Mesa to use a portion of the water on the farmland. Currently, the code prohibits irrigating farmland after the agricultural water rights have been transferred for municipal use.

"It's in the best interest of Coolidge and Eloy and Mesa to amend the law together, so we can use the land," said Karl Kohlhoff, Mesa's water resources coordinator. "It's not going to be a wasteland."

Kohlhoff said the land could be used for proving grounds, a commercial campground or farmland for crops that use little water, such as desert pines, which are grown and sold as Christmas trees.

Mesa has not developed a plan for managing the land, which is more than 40 miles southeast of the city. City officials say Mesa probably will not need the ground water for 15 years.

Long-range plans call for construction of pipelines to pump the water to the nearby Central Arizona Project canal, where it would be shipped to Tucson to exchange for other water removed from the CAP canal near Mesa.

For years, Tucson has been buying Avra Valley farmland north of the city for water rights. Last year, Scottsdale purchased Planet Ranch, on the Bill Wiliams River, for its river water rights.

Mesa's purchases, which have not been completed, will total about $29 million. Last month, the council authorized paying $23.4 million to 11 Pinal County landowners for about 9,500 acres. The purchases authorized Monday total $5.68 million in cash to two landowners for 1,930 acres.

Negotiations for 298 more acres fell through Monday, and no further purchases are expected.

Mesa's Pinal County lands are expected to yield about 31,000 acre-feet of water a year, or slightly more than 10 billion gallons. An acre-foot is 325,851 gallons, or enough for an average urban family of five for a year.

Mesa officials were in the market for at least 30,000 acre-feet annually to develop the eastern portion of the city.

[From the Scottsdale (AZ) Daily Progress, Thursday, August 22, 1985]

PHOENIX STARTS STATEWIDE SEARCH FOR "WATER FARMS"

By Keith Bagwell

The city of Phoenix has launched a statewide search that could lead to buying "water farms" similar to the city of Scottsdale's Planet Ranch.

"We're looking pretty much everywhere for water rights purchases," said Bill Chase, the city's water adviser.

The purchases could begin as soon as next year, Chase said.

"Water farms" are agricultural land bought by municipalities to obtain water rights—such as Planet Ranch in northwestern Arizona, for which Scottsdle paid $11.6 million last year.

Other Valley cities have bought or are negotiating to buy water farms.

Under Arizona's "first in use, first in ownership" laws, water rights belong to the property owners who first used the water on their land. Rights can be sold to subsequent owners.

Phoenix, which has availability of 250,000 acre-feet of water a year, estimates that it needs rights to 500,000 acre-feet annually to meet its 50-year needs and must obtain about 60,000 acre-feet by buying water rights, Chase said.

An acre-foot—325,850 gallons—is the amount of water sufficient to cover an acre to a depth of 1 foot. It is the average amount of water used in a year by an urban family of four.

Chase said the city aims to buy the water rights in 5 years "and probably much sooner . . . we're not in a panic . . . but we don't want to wait to the last minute."

About half of Phoenix' projected new water needs, 125,000 acre-feet, are to be met by the $4.6 billion Central Arizona Project, he said.

That is enough to supply the city through the turn of the century, he said.

Phoenix' share of water storage that would come from construction of the proposed $636 million Cliff Dam on the Verde River and the $319 million addition to Roosevelt Dam on the Salt River should add 20,000 to 30,000 acre-feet a year, he said.

The city also estimates it can garner 40,000 to 60,000 acre-feet a year from wastewater reclamation, he said.

Chase said the city has hired a consultant, Larry Davis, to look for potential purchases and to screen sale offers.

The city has been approached by a number of people about possible water rights sales, Chase said.

"Some proposals will take detailed studies because we are lacking data on them now. It's better to invest some time and money for study before using public money for major purchases," he said.

The studies and purchases will be financed through revenues from city water sales—water bills—to residential and commercial customers, he said.

Those payments could affect about 14,000 Scottsdale homes and businesses south of Chaparral Road who are served by the Phoenix city water system.

Scottsdale is negotiating to buy that portion of the system.

Planet Ranch, an alfalfa farm on the Bill Williams River near Lake Havasu City, became one of the state's first water farms in the spring of 1984 when Scottsdale bought it to acquire rights to 13,500 acre-feet of water a year.

Scottsdale does not expect the water will be needed for another 10 to 20 years, but the city must continue the farming operation to retain water rights.

[From the Scottsdale (AZ) Daily Progress, November 21, 1985]

SUPPORTER SAYS CAP CAN MOVE CITY WATER

By Mark Flatten, Progress Staff Writer

There should be enough room in the Central Arizona Project canal to transport water from the city's Planet Ranch in western Arizona to Scottsdale, the head of a private CAP support group said today.

Bill Wheeler, executive director of the Central Arizona Project Association, said the capacity of the aqueduct is so large that water from Planet Ranch can easily be carried.

The city owns rights to 13,500 acre feet of water a year from the Bill Williams River that crosses the ranch.

The CAP canal can carry more than 2 million acre feet of water a year, Wheeler said.

"They (Scottsdale officials) are working with the Central Arizona Water Conservation District to make arrangements so they can use the aqueduct," Wheeler said at a Mayor and City Council breakfast at the Scottsdale Center for the Arts.

"They are going to have to work out the management, but there are times the water can be moved. An important element of the CAP canal is it is a big, flexible system and we can work out all kinds of arrangements."

Federal and state officials, including Tom Clark, head of the CAWCD, said earlier that there is no assurance the CAP will have room for Planet Ranch water.

Scottsdale bought the 2,200-acre alfalfa farm for $11.6 million last year to obtain its water rights.

City officials hope to use the CAP aqueduct to transport the water 180 miles to the city, but don't believe the water will be needed for at least 10 years.

Wheeler's organization was set up in 1946 to support efforts to raise money for canal construction. It is not a government agency.

Clark and officials of the U.S. Bureau of Reclamation and the Arizona Department of Water Resources told the Scottsdale Daily Progress in May that the canal may run too full to carry the city's water.

But Wheeler said he is optimistic because the capacity of the CAP canal is so large.

"You're just talking of a very minute amount of (Planet Ranch) water in the CAP," Wheeler said. "I ~~think they~~ can squeeze it in. But the only guarantee we have is that the (CAWCD) board has said Scottsdale can use it if they can squeeze it in."

In a related matter, state and federal water officials will meet Dec. 2 to discuss an agreement to provide $327 million in local funds to speed construction of the canal, Clark said Wednesday.

Clark said officials made progress on the plan during meetings Monday and Tuesdy, but will not have an agreement before Thanksgiving as they hoped.

A new proposal is to be circulated on Friday or Monday by the U.S. Bureau of Reclamation, which is building the $3.5 billion project, he said.

State and local officials have offered to pay the $327 million up front if the federal government will complete the CAP, including a water storage and flood control feature known as Plan 6, by 1998.

The CAP is intended to carry Colorado River water to central and southern Arizona.

[From the Arizona Republic, November 9, 1984]

NO WATER CRISIS AHEAD

By Barbara Rose, Southeast Valley Bureau

The city of Phoenix does not face a water crisis or unavoidable water shortages—not now or in the foreseeable future.

In fact, contrary to some reports, there is every indication the city will have a water surplus beyond the next decade.

Even then, shortages are unlikely because of various supply options and conservation measures.

That is not to say Phoenix should avoid mandatory water conservation, higher rates or penalties for waste.

But the costs of such programs must be weighed against potential savings. Legal issues also are involved.

Phoenix's large per-capita water use has left it with a poor public image.

Viewed from elsewhere in the nation, Phoenix is seen as a water wastrel, while American taxpayers underwrite many Central Arizona Project costs.

Phoenix now uses so-called On-Project or Salt River Project water. SRP will reduce ground water pumping under state law, but its surface water will meet average needs.

When surface supplies are low, ground water can be used. If they are high, such supplies can replace used ground water.

The city also uses so-called Off-Project water. This is ground water, serving two-thirds of 900,000 customers. It uses so-called gate water as well, which is obtained from the Verde River, reaching one-third of the total.

Phoenix now services its customers with less than 100,000 acre-feet of water per year.

Some 114,000 acre-feet of CAP water will flow to Phoenix starting in mid-1985. Another 10,000 acre-feet of dependable gate water will be available. That total of 124,000 acre-feet should meet city demands until 2000.

That is not a crisis.

If needed, supplies can be increased in various ways.

One large source would be the use of effluent or treated waste water instead of drinkable water on golf courses and other areas.

The city also may buy some of 1 million acre-feet of Colorado River water from farmers and other owners in western Arizona.

This would require statewide cooperation and inspired leadership to avoid a repetition of the water war being waged in California.

A costly pipeline and pumping system would have to be installed, but the water is available.

The city could pump unused ground water from various parts of the state. That would require buying water rights as well as costly pipelines and pumping. It would again necessitate statewide leadership to reach agreement.

Many water-conservation practices can be instituted—through pricing, waste penalties, reuse, water-saving devices, desert landscaping and locating high-volume water users in the SRP system.

All the solutions are available in Arizona. It is a question of study, finance and prudent planning.

[From the Phoenix Gazette, October 11, 1985]

SOMETIMES LESS CAN MEAN MORE

By John Dougherty—Agriculture

The exaggerated claim that the Valley faces a water shortage is nothing more than a well orchestrated hoax.

And what a costly joke it is. The punch line is that the Valley is saturated with water.

The problem lies not in the supply of water but how it is used.

If you doubt that we are awash in water, ask yourself the next time you drive past a new housing subdivision advertising lake front condos, "Where are they getting all the water?"

New housing projects come from old farmland. And old farmers have a ton of water. And they are getting rich from it.

So while local governments urge residential water consumers to put a brick in the toilet and quit watering their lawns, they approve the construction of subdivisions with waterfront property and private docks.

As the population expands, fmers who have benefited from years of subsidized electricity and water, benefit again. This time, the payoff is not measured in pennies per kilowatt-hour but in millions of dollars for the land they sell and the water it controls.

As the real estate scramble unfolds in the Valley it becomes increasingly apparent that Arizona's water is managed to benefit a tiny number of heavily subsidized farmers at the expense of every American taxpayer.

Arizona agriculture, with its paltry 2 percent contribution to the gross state product, is by far the state's largest consumer of water.

According to still accurate 1977 Department of Water Resources figures, irrigated agriculture consumes about 4.3 million acre-feet of water, or an astounding 89 percent of the water used in the state.

On the supply side, surface waters account for 2.3 million acre-feet while ground water supplies 2.5 million, of which 2.2 million is not returned to the water table.

By reducing the amount of water consumed by agriculture most, if not all, of the ground water depletion could be eliminated while the population continues to expand.

The biggest single water consumer in the state is cotton, which requires an average of 4 acre-feet of water a year. The average rainfall in the Sonoran Desert, where most of the state's cotton is grown, is about 10 inches.

In 1984 the state's 1,943 cotton farms produced $310 million worth of Upland cotton on 430,000 acres—most of which was exported to Asian textile mills.

The Pinal Active Management Area, which has completed the most extensive survey of water use by all consumers, estimates that 60 percent of the water consumed by agriculture in Pinal County goes to grow cotton.

Cotton farms gulped 775,000 acre-feet of water in the Pinal Active Management Area in 1984. Much was drawn from the ground using pumps powered by cheap subsidized electricity from the Hoover Dam.

The amount of water used in the Pinal AMA just to grow one crop of cotton is more than twice the amount of water consumed by all Arizona residential and industrial users.

To justify such a huge use of water in Pinal County for a commodity worth about $80 million in 1984, one would think there must be a good reason, like a severe cotton shortage.

But the world and the United States are in the midst of a cotton glut.

As the inventories rise, the price for cotton falls. The collapse in cotton prices, however, doesn't hit home because the federal government will pay the farmer the difference between the market price of about 60 cents a pound and a target price of 81 cents.

So, despite economic signals that there is overproduction in cotton, Arizona farmers keep on planting because they know Uncle Sam will take care of them to the tune of $41 million as in 1984.

At the same time, this elite group, which includes Deputy Secretary of Agriculture John Norton, is squandering vast amounts of Arizonaa's most vital resource—water.

The next time you hear of the urgent need to build another water storage dam such as the proposed $385 million Cliff Dam on the Verde River, ask yourself if it wouldn't be more sensible to just grow less cotton.

GARRISON DIVERSION UNIT, NORTH DAKOTA

Senator BURDICK. As you know, the process to establish a water supply and irrigation system for North Dakota began more than 40 years ago and the Garrison Dam was built as part of the Pick-Sloan plan for the upper Missouri River basin.

The Garrison diversion unit was hailed as the solution to many problems in my dry State, clean and plentiful water for our farms, towns, and cities.

People of North Dakota have long looked to the development of the Garrison project in return for the half million acres of prime Missouri bottomland flooded by the Garrison Dam. Garrison has had a long and sometimes troubled history and we stand now at a crossroads.

The fiscal 1986 appropriation for Garrison includes a condition. Funding was fenced until such time as the project was reformulated by the proper authorizing committees in both Chambers of Congress. That has not yet occurred.

However, I wish to make the committee aware that the House is currently considering a bill to reauthorize Garrison and action is expected within the next few weeks. The bill is a product of many months of negotiations between various interests and I am optimistic that the bill will be successful.

The budget, therefore, contains $18 million for the Garrison project for fiscal 1987. This is the amount that the Bureau of Reclamation has determined will be necessary to close down operations if a new version of the project is not approved by the Congress.

If the project is reformulated by the bill currently moving through the House, the nature of this appropriation will change. The Department of the Interior will provide us with new figures.

I wish to state again that continued funding for the project is essential and has my full support.

Also, I want to welcome the representatives of the Garrison Diversion Conservancy District, who will be submitting short testimony on the appropriation today. They will be the District Manager, C. Emerson Murry; and the Garrison Board Chairman, Russell Dushinske.

If Mr. Murry and Mr. Dushinske will come forward, we will take their testimony.

STATEMENT OF C. EMERSON MURRY, MANAGER, GARRISON DIVERSION CONSERVANCY DISTRICT

Mr. MURRY. Thank you, Mr. Chairman. In addition to being the manager of Garrison's Diversion Conservancy District, I am here today representing Governor Sinner of North Dakota and to file a statement on his behalf.

As you know, Mr. Chairman, Governor Sinner was unable to be here. He does regret that and he does hope he will have an opportunity to appear before the subcommittee at a later date.

I have filed this statement and in the interest of time we will not read it. But really simply emphasize the Governor's strong support for the compromise proposal reformulating the Garrison project which he hopes will clear the House in accordance with the type of schedule you outlined within the next 2 weeks. Consequently, he very much hopes that this committee will redesign the existing $18 million appropriation that is suggested in the budget to one not for mothballing, but to go forward with the project. We urge that the committee give the most serious consideration to the anticipated $31 million supplemental request that would then be forthcoming from the Department of the Interior to carry this project forward.

I think with that in the interest of time, Mr. Chairman, I would stop and permit Mr. Dushinske to make any comments he may want to.

Senator BURDICK. Thank you. And the Governor's statement will be made a part of the Record.

Mr. MURRY. Thank you.

[The statement follows:]

STATEMENT OF GOV. GEORGE A. SINNER OF NORTH DAKOTA

I am pleased to have the opportunity of filing this statement in support of appropriations for the Garrison Diversion Project in North Dakota.

As you know, the project has been the subject of controversy in the courts and the Congress for a number of years because of objections by environmental organizations. Yet, even the opponents have recognized that North Dakota is entitled to some type of a project because of the huge sacrifices made by the State in furnishing reservoir sites to provide flood control, navigation, and power to downstream States as part of the Pick-Sloan plan for the Missouri River.

In 1984, a special congressional commission was activated to study and make recommendations in regard to the project. Its recommendations would make major changes in reducing irrigation acreage, project costs, and increasing the project emphasis on providing municipal and industrial water. Finally, after additional negotiation between the State of North Dakota and the National Audubon Society and the National Wildlife Federation involving further changes in the commission recommendations asked for by the Society and Federation, a compromise is also supported by both major North Dakota environmental and wildlife organizations.

This compromise is reflected in H.R. 1116 which at this time has been recommended by the Committee on Interior and Insular Affairs of the House of Representatives. It will be considered on the floor of the House within the next 2 weeks and a favorable vote is expected.

Upon this basis, I urge the committee to alter the purpose of the $18 million appropriation recommended in the budget from one which would mothball the project to one which would be used in further construction and activities as authorized in H.R. 1116. I further urge favorable consideration of a supplemental request in the amount of $31 million which we anticipate will be submitted by the Department of the Interior to carry out the purposes of H.R. 1116.

Your support of this long promised and awaited project will be sincerely appreciated by North Dakota.

STATEMENT OF RUSSELL L. DUSHINSKE, CHAIRMAN, GARRISON DIVERSION CONSERVANCY DISTRICT

Senator BURDICK. Mr. Dushinske.

Mr. DUSHINSKE. Thank you, Senator. I, too, appreciate being here and you have copies of my statement, I am sure. And because it is a short statement, I am going to take the liberty of reading the whole thing.

As chairman of the Garrison Diversion Conservancy District, I appreciate the opportunity to make a statement in support of appropriations for the Garrison project in North Dakota. The conservancy district that I represent is the instrumentality created by law in North Dakota to supervise and manage all non-Federal aspects of the project.

As you know, the Garrison project is part of the overall Pick-Sloan plan for flood control and development of the Missouri River. The 1 million acres of irrigation called for in the 1944 Act represented the benefits it would determine North Dakota was entitled to as a result of the sacrifice of giving up 550,000 acres of rich bottomland for reservoir sites to benefit downstream States. Construction began on the first 250,000-acre phase following the authorizing legislation in 1965 and is now about 25 percent complete. North Dakota has consistently and completely met all the requirements and conditions for the non-Federal portions of the project.

You will also recall that in the seventies, environmental organizations began challenging certain aspects of the project which resulted in a number of court cases, all of which were eventually resolved in favor of the project.

In addition, Canada also expressed some concerns which resulted in a review of the International Joint Commission. Again, through project modifications and negotiations with Canada, a phased development program within the Missouri River basin was developed which met Canadian concerns. Because of continued opposition by environmental organizations the Congress next created a special Commission to make findings and recommendations in regard to the project. The Commission recommendations would reduce the irrigation authorized in the project from the 1 million provided in the 1944 Act and the 250,000 authorized in the 1965 Act to 130,000 acres and increase the emphasis on the provision of municipal and industrial water.

Finally, after almost a year of negotiations between the State of North Dakota, the National Audubon Society, and the National Wildlife Federation in an effort to meet further objections of those organizations, a compromise proposal for the project was agreed to. This compromise is contained in House bill 1116 which has been recommended to the House floor by the Committee on Interior and Insular Affairs. Action on the floor of the House should occur within 2 weeks, and a favorable vote is anticipated. Early action in the Senate is expected.

In view of the compromise project and, hopefully, the favorable action that is expected from the Congress to reformulate the project, the conservancy district urges that the nature of the $18 million appropriation contained in the budget to mothball the project be changed to authorize its use in construction and other activities in furtherance of the reformulated project.

We also ask that favorable consideration be given to the anticipated supplemental request from the Department of Interior of an additional $31 million for use on the project in fiscal year 1987.

Thank you again for the opportunity to make this presentation.

Senator BURDICK. Thank you for a very fine presentation. It is no secret that the acting chairman is very much in your corner on this project. I want to thank you again.

Mr. DUSHINSKE. Thank you very much, Mr. Chairman.

NATURAL GAS-RELATED RESEARCH

STATEMENT OF MICHAEL BALY III, VICE PRESIDENT, AMERICAN GAS ASSOCIATION

Senator BURDICK. Our last witness will be Mr. Mike Bailey, vice president of the American Gas Association.

Is Mr. Bailey present?

Mr. BALY. I am Michael Baly, Mr. Chairman, vice president of the American Gas Association. I thought our president would be able to make it and he regrets that he is not able to. He is holding a press conference on the grounds, the Capitol grounds. Today marks the end of a rally on natural gas vehicles that came across country.

I am pleased to testify before you in support of continued natural gas-related R&D. We recognize the constraints that Gramm-Rudman-Hollings places on Federal spending and we in the regulated gas industry have reviewed our priorities for federally sponsored gas R&D and we recommend a total appropriation of $156 million for all DOE natural gas-related R&D in fiscal year 1987. That is 22 percent below our request before you last year. And an appropriation of around $68 million for projects under the jurisdiction of this subcommittee.

As we have discussed with you in the past, we recommend a strong Federal commitment to gas-related research because natural gas is becoming an increasingly more vital source of energy for the U.S. economy, accounting for 24 percent of all the primary energy consumed, and we expect that to rise.

In fact, North Dakota shows promised increased gas reduction with above the current levels recorded in 1984. New discoveries are being made each year and eventually should lead to important gas production in your region of the country. Particularly McKenzie and Burke Counties in North Dakota look very promising. So gas supplies are plentiful. We estimate that with foreseeable technology and economics, the United States has about 57 years of gas supplies from conventional sources.

With Federal assistance, the gas industry would be able to develop the technology necessary to recover perhaps several thousand years of currently unrecoverable gas. Natural gas has many pluses. It is the cleanest of all fossil fuels. It emits virtually no sulphur oxide, sulphur dioxide, a particulate matter, and far fewer nitrogen oxides, hydro carbons, carbon monoxide than either coal or oil.

We are confused that in the record Drew Lewis acid-rain report that natural gas was only mentioned once, and that was in the context of what Canada is doing, to use gas with other fuels. The report recommends $5 billion on clean coal technology without considering the contribution that gas could made.

Despite the advantages, DOE reluctantly invests relatively few of its research dollars to ensure that the Nation will have long-term gas supplies to meet long-term needs.

Research and geology, geophysics, and geochemistry is necessary to increase our basic understanding of the formation and recovery of unconventional gas resources.

In order to achieve this future technological development, we request that this subcommittee earmark $35 million within the DOE $450 million Basic Energy Sciences Program for basic geoscience research. Earmark $35 million out of that $450 million. We feel that this money could be used to train young men and women in the geosciences field and find better ways to extract oil and gas.

Russia is drilling wells close to 10 miles deep to test the Earth's crust. Sweden is recovering frozen hydrates that contain natural gas molecules. We are not doing that. This approach is strongly supported by the Inter-state Oil Compact Commission which includes States like Oregon, Louisiana, North Dakota, and others.

We also recommend $11 million for geopressured methane research to develop new approaches that utilize traditional engineering principles to maximize gas production and minimize brine production.

We feel that we should use the unlimited organic and waste materials by appropriating $18 million for biomass and waste conversion and $4 million for a liquified gas fuels test facility to test fills of liquified natural gas.

We sincerely appreciate the help and cooperation that the subcommittee has provided the gas industry in the past and we look forward to working closely with you in the future.

Thank you, Mr. Chairman. Again, I am sorry I was late.

Senator BURDICK. Thank you very much. I have been going over your written testimony and I find that you have a summary of recommendations including $35 million for basic geoscience research.

Mr. BALY. That is probably the most important. I think probably the best investment in terms of research that we need. And again, it is just an earmark, Mr. Chairman, out of the $450 million. We are not doing enough in this country on geophysics, finding better ways to extract oil and gas in this country. Too, I think, it is lopsided in terms of nuclear and electric compared to oil and gas.

Senator BURDICK. And $11 million for geopressured methane research.

Mr. BALY. Yes, sir. Again, we find that that kind of investment could provide endless numbers of years of natural gas. This is basically a brine off the coast of Louisiana and Alabama that contains large quantities of natural gas, but once you puncture it, it is high temperature and high pressure water. We have to find better ways in which to capture that natural gas. There are two, I believe, test wells that DOE has operating today.

Senator BURDICK. And $18 million for biomass.

Mr. BALY. Yes, sir; this would be able to be used to develop methane from city dumps. Disneyland, for example, is testing using the local municipal waste to provide all the energy in their facility. To move the boats, eating, everything, from that waste. We feel that we need to try to cap the energy that we would get from organic and waste materials in this country. And we feel that $18 million would be a good investment.

Senator BURDICK. Do you think there is a possibility of it being cost effective?

Mr. BALY. Yes, sir; we do. We feel that because our industry, at least, is a regulated one. State commissions are very weary about our companies investing funds in things which they do not think will have a quick turnaround in a short period of time. We find that gas research is not like a water spigot that you can turn off and on. If we are not going to get into trouble in this country down the road again, Senator, with imported oil, we feel we need to try to provide a timely and established criteria for gas research.

Senator BURDICK. Then you are asking for $2 million for liquified natural gas safety.

Mr. BALY. We are recommending $4 million for that, Senator. DOE, I believe, is spending $1.25 million. Right now we are not importing liquified natural gas, but there are on-site facilities in areas of the country where you have that peak demand in the wintertime. Utilities do store this gas and use this LNG for peak sharing during high periods of demand. We feel that we need to develop better tests for stronger dikes, maybe how you can transport that liquified natural gas.

Senator BURDICK. I think the industry's other concerns are more or less dealt with in the Interior Committee.

Mr. BALY. Yes, sir; most of the research budget is in that particular subcommittee. I think the majority of it. This subcommittee has jurisdiction over a little less than half of all the DOE natural gas-related R&D.

Senator BURDICK. Thank you very much for your contribution this morning.

Mr. BALY. Thank you, Senator.

[The statement follows:]

STATEMENT OF MICHAEL BALY III, VICE PRESIDENT, GOVERNMENT RELATIONS, AMERICAN GAS ASSOCIATES

Mr. Chairman and Members of the Subcommittee: I am Michael Baly III, Vice President of Government Relations for the American Gas Association (A.G.A.). I am pleased to appear before you in support of natural gas-related research and development (R&D) conducted or sponsored by the Department of Energy (DOE).

A.G.A. is a national trade association consisting of nearly 300 natural gas distribution and transmission companies that serve more than 166 million consumers in all 50 states. Collectively, these companies comprise nearly 85 percent of all gas utility sales in the United States.

In recognition of the constraints on Federal spending resulting from Gramm-Rudman-Hollings, the gas industry has reconsidered its priorities for federally-sponsored gas R&D. Accordingly, A.G.A. recommends an appropriation of $156 million for all DOE natural gas-related R&D in FY 1987. Our total FY 1987 recommendation reduces by 22 percent A.G.A.'s FY 1986 recommendation of $200 million. From this total, we recommend an appropriation of $66 million for projects under the jurisdiction of this Subcommittee. We consider this reduced level of funding for total gas research in FY 1987 to be the minimal necessary to develop and utilize future natural gas resources to their fullest potential.

SUMMARY OF RECOMMENDATIONS

$35 Million	Basic Geosciences Research
$11 Million	Geopressured Methane
$18 Million	Biomass
$ 2 Million	Liquefied Natural Gas Safety

DOE FUNDING FOR GAS AND GEOSCIENCES RESEARCH

Natural gas is a vital source of energy for the United States economy. For example, in 1985, estimates indicate that gas accounted for 24 percent of the primary energy consumed in the United States. Indeed, over the past 25 years, natural gas has accounted for between 24 and 33 percent of all of the primary energy consumed in the United States. Natural gas is used throughout all sectors of the economy. In 1985, gas constituted 51 percent of all end use energy consumed in the residential sector of the economy, 43 percent of all end use energy consumed in the commercial sector and 38 percent of all end use energy consumed in the industrial sector. In addition, natural gas accounts for 12 percent of all fossil energy consumed in electricity generation.

Natural gas has positive attributes which will allow it to continue to be a critical source of energy in the future. First, gas supplies are plentiful. The Potential Gas Committee, the industry group that evaluates future gas resources, has estimated that with forseeable technology and economics, the United States has approximately 981 Trillion Cubic Feet (Tcf) or about 57 years of gas supplies from conventional sources. However, many experts contend that the total amount of gas existing in conventional and unconventional geological formations that is currently unrecoverable exceeds 100,000 Tcf. Thus, major breakthroughs in gas recovery technology enabling the recovery of one or two percent of the total gas resource base would result in doubling or tripling our 57 year recoverable gas supply. Second, natural gas is the cleanest of all fossil fuels. Gas combustion emits virtually no sulfur dioxide or particulate matter, and far fewer nitrogen oxides, nonmethane hydrocarbons and carbon monoxide than either coal or oil. Moreover, natural gas combustion does not have disposal problems such as fly ash from coal or spent nuclear fuel. Increasingly, natural gas is becoming recognized as a fuel that can be used without creating substantial environmental hazards. Third, more and more commercial and industrial users are recognizing the benefits of using natural gas. Emerging gas utilization technologies such as commercial gas cooling systems, combined cycle gas turbines, select use of gas, fuel cells and advanced cogeneration systems offer greater fuel efficiencies that will allow commercial and industrial energy users to reduce energy costs.

Although natural gas will be, in the forseeable future, a primary source of energy for the United States economy, the DOE invests relatively few of its research dollars to ensure that gas reserves will meet future gas demand. Research in the geoscientific fields of geology, geophysics and geochemistry is necessary to increase our basic understanding of the formation and recovery of unconventional gas resources. Increased understanding of unconventional gas resources is required to achieve the technological advances that will expand the recoverable gas resource base. Indeed, production from conventional sources of gas located in the Lower-48 States is expected to decline by the year 2000. Thus, increased production from unconventional sources will be necessary to compensate for declining conventional production.

With federal assistance, the gas industry can achieve these technological advances and ultimately improve U.S. energy supply security more quickly and for substantially less money than the DOE nuclear fusion program. Even though billions of dollars have been spent on nuclear fusion research, fusion as a source of energy may not be feasible technologically until well into the 21st century.

In stark contrast, we know that, with a federal commitment of several million dollars, we can achieve technological breakthroughs in gas supply research that will expand significantly the recoverable gas resource base and improve our nation's future supply security. First, the immensity of the total gas resource base (both recoverable and unrecoverable) is well-known and well-documented. Second, recovery of much of the gas located in currently unrecoverable sources of gas is technically possible, but economically infeasible. For example, high production costs prevent the recovery of much of the gas located in tight geological formations such as Devonian Shales and tight sands. Research breakthroughs in the techniques for recovering tight formations gas could lower production costs and increase the amount of gas that may be recovered.

To achieve the results in gas supply that we envision, DOE must fund more basic research in the geosciences. DOE currently funds a small geosciences research program within the $450 million Basic Energy Sciences (BES) program. We request that Congress direct DOE to spend, from the $441 million that DOE requests for the BES program in FY 1987, $35 million for basic geosciences research. A well-funded federal geosciences program is strongly supported by the Interstate Oil Compact Commission (IOCC), via an IOCC resolution adopted last December. These funds would be used not only to conduct long term, high risk geosciences research, but also to train young men and women in the geosciences field.

Advances in end use utilization of natural gas have already increased the efficiency of gas appliances and processes. Further technological advances in gas utilization will enable a single piece of equipment to provide multiple energy services with significant cost savings and efficiency gains. Further research on electrochemical processes and thermodynamics could radically change the manner in which gas is transformed into usable energy.

Increased gas use can also provide solutions to pressing national energy and environmental problems. Our nation has several energy-related problems: (1) energy security because of oil imports; (2) air pollution resulting from sulfur oxide emissions; and (3) potential shortfalls in electricity generating capacity. The development of new, highly-efficient gas utilization technologies can solve these problems by reducing our dependence on imported oil, reducing sulfur oxide emissions and assisting electric utilities in meeting electricity demand.

SPECIFIC FUNDING RECOMMENDATIONS

GEOPRESSURED METHANE: $11 Million

Geopressured methane is found in either a free state or dissolved in water and trapped in sedimentary rock at higher-than-normal pressures. One of the largest geopressured areas underlies a portion of the Texas and Louisiana Gulf Coast. Estimates of the total resource in-place range up to 100,000 Tcf; however, estimates of the amounts of gas that might ultimately be recovered range between 25 and 1,200 Tcf. Given the large in-place resource, geopressured methane could be a virtually inexhaustible source of domestic energy.

Research conducted by the DOE in the geopressured zones is focused on producing both gas and electricity from low-grade heat in the reservoir brine. The DOE should redirect its research efforts and concentrate more on recovering the vast amount of dissolved methane found in geopressured zones. In addition to the DOE's current geopressured program, the DOE should attempt novel approaches that utilize traditional engineering principles to maximize gas production and minimize brine production.

BIOMASS: $18 Million

Since the supply of organic and waste materials is virtually unlimited, supplemental methane supplies from biomass and waste conversion can add significantly to the total future gas supply picture. Developing energy from biomass also would promote the environmental benefit of productive use of currently "useless" materials. However, the quality of the gas produced and a suitable processing technique are important concerns that inhibit the widespread use of these potential gas resources.

The sources of biomass, land and marine plant matter, must be tested to determine the appropriate technology for producing high-quality gas from the resource. Because these sources vary greatly in content, the technologies must be flexible. To produce gas economically, processing techniques must be improved to increase conversion efficiencies.

LIQUEFIED NATURAL GAS SAFETY: $2 Million

Liquefied natural gas (LNG) is natural gas which is converted into liquid form by reducing its temperature to minus 260°F. This technique is advantageous because it permits large volumes of natural gas to be transported over great distances and terrain not otherwise suitable for pipelines. Potentially, the resource base for LNG includes any overseas gas reserves beyond those required for local consumption. However, one difficulty with transporting LNG has been that virtually no experimental data exists on the behavior of large spills.

The Liquefied Gaseous Fuels Test Facility will allow researchers, on a user fee basis, to evaluate spills of liquefied gases, including LNG, at magnitudes far greater than has been previously possible. The research needs include investigating equipment vulnerability to natural forces, the ability of dikes to contain large spills, the advantages of in-ground storage, the behavior of spills on different surfaces and the validation of methods for preventing accidental liquefied gaseous fuels spills.

CONCLUSION

The natural gas industry recognizes that Gramm-Rudman-Hollings places severe constraints on Federal energy research dollars. Our recommendations for gas research in FY 1987 reflect these concerns. We believe that our recommendations are both necessary and prudent. If Congress adopts the gas research program supported by the gas industry, the nation will be able to bolster U.S. energy supply security and improve energy efficiency.

NEBRASKA WATER RESOURCE PROJECTS

Senator BURDICK. Senator Exon of Nebraska has asked that several statements submitted on various water projects in his State be included in the record.

So, those will be incorporated at this point, along with several other statements on Nebraska projects.

[The statements follow:]

LETTER FROM SENATOR EXON OF NEBRASKA

APRIL 14, 1986.

Hon. MARK O. HATFIELD,
Chairman, Subcommittee on Energy and Water Development, Committee on Appropriations, U.S. Senate, Washington, DC.

DEAR SENATOR HATFIELD: Enclosed you will find the statement of Mr. Marvin J. Rickert, Mr. Doug Thompson, Mr. Ronald G. Hargens, and Mr. Rodney K. Gangwish concerning funding for the feasibility study of the Prairie Bend unit in Nebraska.

As you know, the completion of the feasibility study is very important to the development and management of the Platte River in Nebraska. I would appreciate your subcommittee's thoughtful consideration of these Nebraskans' comments when you meet to discuss this appropriations measure.

Sincerely,

J. JAMES EXON.
United States Senate.

STATEMENT OF DOUG THOMPSON, WOOD RIVER, NE

REQUEST:	$401,000.00 for Fiscal 1987
FUNDING PURPOSE:	Completion of Feasibility Study by U.S. Bureau of Reclamation
PROJECT:	Prairie Bend Unit
LOCATION:	Dawson, Buffalo and Hall Counties in Nebraska
PROJECT PURPOSE:	Irrigation, stabilization of ground water levels, enhancement of water quality, small community and rural domestic water supplies, fish and wildlife habitat, flood control, public outdoor recreation and other purposes determined to be appropriate.

I sincerely ask the Committee to seriously consider the request for the approval of funds for continuation of the feasibility study of the Prairie Bend Project in Central Nebraska.

This project is essential to the irrigated economy of the Hall/Buffalo County area. The area included in the project has been experiencing significant ground water declines over the past twenty years and the projections of declines for the coming years are disastrous.

As a farmer who has lived and farmed in the western Hall County area my entire life (as did my father and grandfather), I have seen our wells that at one time would pump 1,000 gallons per minutes from 60 feet deep, decline to 500 gallons per minute at 200 feet deep. The replacement cost of these "deep" wells into the Ogallala aquifer is staggering (approximately $15,000.00 per well), not to mention the increased energy requirements which are approximately triple.

The Prairie Bend Project would not only surface irrigate a considerable portion of the area, but would provide us the much needed recharge of the underground aquifer for continued pump irrigation.

The area to be served by this project is not marginal land which would be developed for irrigation should the project be built; it is for practical purposes, all Class I prime farmland which has already been developed and irrigated over the last 40 years. This entire area of Nebraska operates on an irrigated economy, not only the farmers, but all businesses which are interrelated to them. Considering the condition of the present farm economy, should the area be reverted to a dry land economy, the consequences would be disastrous.

Local support for the project is tremendous. The Central Nebraska Conservation Association (Prairie Bend) is operated strictly on donations from area farmers and businessmen, and has worked in conjunction with the Central Platte Natural Resources District on the project. In addition to the $240,000.00 committed to the project by Central Platte Natural Resources District, many in-kind services have been and will continue to be rendered by both groups.

The futures of my family and neighbors will hinge upon this project; and therefore, I hope you will give it your most serious consideration.

STATEMENT OF RONALD G. HARGENS, CAIRO, NE

REQUEST:	$401,000.00 for Fiscal 1987
FUNDING PURPOSE:	Completion of Feasibility Study by U.S. Bureau of Reclamation
PROJECT:	Prairie Bend Unit
LOCATION:	Dawson, Buffalo and Hall Counties in Nebraska
PROJECT PURPOSE:	Irrigation, stabilization of ground water levels, enhancement of water quality, small community and rural domestic water supplies, fish and wildlife habitat, flood control, public outdoor recreation and other purposes determined to be appropriate.

I farm between Cairo and Wood River in the approximate center of the Prairie Bend area. I am 38 years old and have always lived in this area and have farmed for 21 years for myself.

In that time period I have seen the shallow wells go dry, being replaced by deep wells, tripling the horsepower requirements for irrigation water. On the land I farm there have been six irrigation wells abandoned for lack of production. Replacement wells were drilled at a greater depth to sustain irrigation.

According to the Bureau of Reclamation studies, and other studies done by private engineering firms, it is shown that in parts of the Prairie Bend area the aquifer life to sustain irrigation is 25 years or less.

In the same period the nitrate level of our house well has increased to 13 parts per million, three parts per million above the drinking water quality standard. Since we discovered this high level of nitrate in our drinking water we have been hauling bottled water for drinking.

To solve some of our problems, the Central Nebraska Conservation Association (Prairie Bend) was formed by a group of farmers and landowners from the Cairo, Wood River and Shelton area in western Hall and eastern Buffalo Counties in Nebraska. The purpose of the organization is to develop an irrigation and ground water recharge project to combat declining water tables and well production in much of the area.

To do this we filed a water right application in March of 1976 with the State of Nebraska to divert, store and use Platte River water. In October, 1976 we went to the Central Platte Natural Resources District, a local government subdivision, to ask them to assist us in securing a feasibility study. The Board of Directors unanimously decided to help us because of the existing and future water problems. Together we began seeking assistance from the Bureau of Reclamation to have them do an appraisal and feasibility study of the area.

The Upper Platte River Study has been completed by the federal government and the Prairie Bend area was part of the study. The study shows that there is a feasible project in the area.

Our Nebraska delegation secured authorization and funding approval in both the House and the Senate for the feasibility study in 1983 and the study is now underway. The Central Platte Natural Resources District has budgeted $240,000.00 to help fund the feasibility study and additional financial support is being offered from the Central Nebraska Conservation Association.

The project is being supported by several area groups and organizations: the Hall County Board of Supervisors, Buffalo County Board of Supervisors, Kearney Chamber of Commerce, Grand Island Chamber of Commerce, City of Grand Island, the towns of Cairo, Shelton and Wood River, Central Platte Natural Resources District, the Nebraska Natural Resources Commission, Nebraska Water Resources Association and several other groups and organizations.

An attitude survey poll was conducted by the Central Platte Natural Resources District, Central Nebraska Conservation Association, Whooping Crane Habitat Maintenance Trust and the Grand Island Chamber of Commerce. The poll was taken in the Central Platte River Valley and showed the people were very much in favor of a water storage project in the area. Of those who had an opinion, 85 percent were in favor.

With this amount of State and local support, and the existing and future water problems of water quality and supply, we feel it is of utmost importance that the feasibility study be continued in order to determine what can be done to solve the problems.

Therefore, I am submitting this testimony to request your continued support of the Prairie Bend feasibility study being conducted by the Bureau of Reclamation. The study has been going very well, so I decided to submit this written testimony instead of taking up valuable committee time with oral testimony on an unopposed study.

STATEMENT OF MARVIN J. RICKERT, WOOD RIVER, NE

REQUEST:	$401,000.00 for Fiscal 1987
FUNDING PURPOSE:	Completion of Feasibility Study by U.S. Bureau of Reclamation
PROJECT:	Prairie Bend Unit
LOCATION:	Dawson, Buffalo and Hall Counties in Nebraska
PROJECT PURPOSE:	Irrigation, stabilization of ground water levels, enhancement of water quality, small community and rural domestic water supplies, fish and wildlife habitat, flood control, public outdoor recreation and other purposes determined to be appropriate.

I, Marvin Rickert, being a farmer who has lived in the Prairie Bend water project area my whole life and having farmed for nearly 30 years in this area, realize the water declines and the need of a water project.

I am asking for your continued support of the Prairie Bend feasibility study being conducted by the Bureau of Reclamation. The local support for this project is tremendous.

I want to thank you for your support in the past and for your future support in solving our water problems.

STATEMENT OF RODNEY K. GANGWISH, SHELTON, NE

REQUEST:	$401,000.00 for Fiscal 1987
FUNDING PURPOSE:	Completion of Feasibility Study by U.S. Bureau of Reclamation
PROJECT:	Prairie Bend Unit
LOCATION:	Dawson, Buffalo and Hall Counties in Nebraska
PROJECT PURPOSE:	Irrigation, stabilization of ground water levels, enhancement of water quality, small community and rural domestic water supplies, fish and wildlife habitat, flood control, public outdoor recreation and other purposes determined to be appropriate.

I would like to take this opportunity to submit written testimony in support of continuing the feasibility study for the Prairie Bend Unit by the Bureau of Reclamation.

I am a landowner and live two and a quarter miles south, and two and a quarter miles west of Shelton, Nebraska, within the boundaries of the proposed Prairie Bend Unit and am actively engaged in a farming partnership with my brother and my father.

I wish to convey to you a growing concern on the part of myself and my neighbors about the future of irrigated agriculture in our area.

We have ground water declines of 15 to 25 feet in the area with a significant decrease in well production. In most areas of the northern part of the Prairie Bend Unit, the top water Pleistocene formation has been depleted. Some of these shallow wells in the northern reaches of the area that were yielding 700 to 800 gallons per minute 10 years ago and now yield less than 150 gallons per minute. These shallow wells have been replaced with deep wells drilled into the Ogallala aquifer. The problem is that in some areas the Ogallala formation either does not exist or is not that productive and is yielding only 400 gallons per minute.

The land we farm that lies close to the Platte River (within two to four miles) also has no deep water Ogallala aquifer. The wells on this land have decreased up to 25 percent in output over the last 15 to 20 years.

This trend is alarming to me, and when we take into account the projections of ground water models and studies, such as the Platte River Basin Level B Study conducted by the Missouri River Basin Commission, our future for sustained irrigated agriculture is in serious jeopardy.

In addition, there are water quality problems. All of the residents and towns in the area get their drinking water from ground water. Several communities have problems because their nitrate content is above the Public Health Service's recommended maximum. I had to replace my well four years ago because it was yielding water with this same problem.

Flooding is another problem and, although not frequent, can cause a great deal of damage. There was in excess of $30,000,000.00 damage in the 1967 flood between Kearney and Columbus, much of which was in the proposed project area.

I feel the mood of the people in our rural area and in the surrounding communities of Grand Island and Kearney, have changed to the point that they are ready to face up to these challenges. We envision a project that would not only supplement irrigated water supply, stabilize ground water levels and enhance ground water quality, but would enhance municipal and rural domestic water supplies and provide fish and wildlife habitat, public outdoor recreation and flood control. One or more of these facets of the project would appeal to every citizen of our area in addition to stabilizing the economy of irrigated agriculture.

These are some of the reasons for the strong base of support the project has throughout the valley.

As you can see, we are not talking about a single purpose irrigation project, but a multi-purpose water resources project that would address all of these needs and more.

My neighbors and I support this type of project which will meet our needs for our future in irrigated agriculture. If we do not have some solutions to our challenges, we will be faced with turning irrigated acres back to dry land.

We in the Prairie Bend Unit urge you to support the continuation of the feasibility study.

STATEMENT OF DR. WILLIAM L. POWERS, DIRECTOR, WATER RESOURCES CENTER, UNIVERSITY OF NEBRASKA—LINCOLN

INTRODUCTION

Thank you for allowing me to submit written testimony before the Subcommittee on Energy and Water Development, House (Senate) Committee on Appropriations. This testimony is for support of a Northern Great Plains Solute Movement Laboratory needed to address groundwater quality problems beginning to concern the public. This proposal has the support of the University of Nebraska Board of Regents and the Governor's Office as seen by the attachments.

The use of agricultural chemicals in agricultural production has increased greatly during the past ten to fifteen years over the Northern Great Plains. In Nebraska alone some 30,000,000 lbs. of pesticide and 200,000,000 lbs. of fertilizer are used annually. Several instances of nitrate contamination have been reported in Nebraska. Some herbicides are now beginning to be detected in the groundwater.

Such reports of groundwater contamination have increased greatly over the past decade. This is partly due to more chemicals reaching the groundwater and partially due to better instrumentation that allows the measurement of chemicals in ever smaller amounts (parts per trillion in some instances). Nevertheless, the increasing number of contamination reports has created a concern for the health of those using groundwater as a source of drinking water.

As a result of this concern, the U.S. Environmental Protection Agency released a Groundwater Protection Strategy in 1984. The State of Nebraska also released a Nebraska Groundwater Quality Protection Strategy (one of the first in the nation) in February of 1985. Both of these strategies stress that remedial measures are extremely difficult and expensive. They stress pollutant source management and control as the most promising way of protecting groundwater.

In order to control (or manage) the sources of groundwater contamination, best management practices (BMP's) need to be developed and adopted. To develop BMP's, the fate and movement of chemicals (solutes) must be understood and predictable. This understanding and prediction capability can be accomplished through historical examination of past management practices and groundwater monitoring, development and calibration of simulation models, or controlled application coupled with extensive measurements. A combination of these is probably most desirable.

An interdisciplinary team of scientists having close access to a field research site and chemical analysis facilities is necessary to develop this understanding and prediction capability of the fate and movement of chemicals, i.e., a Solute Movement Laboratory needs to be established. The National Center for Groundwater Research (a consortium of universities in Texas and Oklahoma) partially serves this purpose for the Southern Great Plains region. However, no such facility exists for the Northern Great Plains area which differs in geology, climate, soils and agriculture practices from the southern region.

This is a proposal to establish a facility for the study of the fate and movement of chemicals through and below soils common to the Northern Great Plains region. Such a facility could be called a Solute Movement Laboratory and consists of a chemical analysis laboratory at the University of Nebraska in Lincoln with field laboratories in North Platte and perhaps surrounding states of the Northern Great Plains. The whole system would be called the Great Plains Solute Movement Laboratory.

To study the fate and movement of chemicals in soils and aquifers, scientists would sample the soil solution and the aquifer below field laboratory sites to which the chemicals have been added.

These field sites would be heavily instrumented and monitored. Because sophisticated instruments would be needed to analyze the samples for the array of chemicals being applied, they would be sent to the chemical analysis laboratory at the University of Nebraska in Lincoln. The anlysis laboratory would serve as the focal point and center of coordination for solute movement studies in the Northern Great Plains.

FIELD LABORATORY SITES

The facility at North Platte is an example of a typical field laboratory. Land owned by the University and cooperators will be available to be used as a field research site. The North Platte area has soils typical of the Northern Great Plains region. The site will be instrumented and operated so as to sample the soil, soil solution and groundwater. To support the research, other sites operated by the University and on surrounding farms, space for sample preparation, as well as office space for addtional professional staff, will be constructed near the headquarters of the West Central Research and Extension Center.

Initially the hydrologic and chemical characteristics of the field site will be determined. Some of the many models developed elsewhere to predict the fate and movement of the common agricultural chemicals will be calibrated for the experimental site characteristics. The site will be intensively instrumented. Soil and water will be sampled under various management systems. The samples will be analyzed at the University of Nebraska in Lincoln so as chemicals are added to the soil their fate and movement can be traced as the water migrates to and through the groundwater.

Early research activity will be directed toward developing best management practices for an emerging technology called "chemigation", where chemicals are applied through an irrigation system. Irrigation sytems will be evaluated for their efficiency of application as well as devices for preventing direct spills down the well to the groundwater from a malfunction. The use and effectiveness of various chemicals and application rates for different cropping systems will be evaluated.

Past chemical application times and rates by cooperating private irrigators will be determined from their records. These will be compared with the analysis of soil and groundwater samples. This will provide an indication of the fate and movement of previously applied chemicals to supplement information to be obtained as controlled study sites become operational.

THE CHEMICAL ANALYSIS LABORATORY

The laboratory facility in Lincoln will house hydrologists, hydrochemists, chemists, hydrophysicists, soil scientists, weed scientists and entomologists, as well as support personnel (graduate students, electronic technician, glass blower, etc.) and their equipment. The building to house the laboratory should have the basics necessary for a 780 VAX computer room, sediment sorption labs, wet labs with purified water systems, GC mass spectroscopy lab, light gas isotope ratio lab (constant temperature), conference room, offices, electronic and glass blowing shop. Such instruments as a GC mass spectrometer, atomic adsorption unit, radium mass spectrometer are needed to analyze the samples from the field sites. Because of the great array of chemicals to be quantified and the sophisticated instruments needed, only one such centralized analytical laboratory is practical for the region. Presently many samples are sent outside the region for analysis.

ESTIMATED BUDGET

The cost of the centralized analytical laboratory (including the necessary instrumentation and lab equipment) is estimated to be $2,550,000 of which $250,000 is from non-federal sources.

The cost of the fully instrumented North Platte field site is estimated to be $1,718,300 of which $770,000 will be from non-federal sources. An additional $751,700 would be needed to expand the laboratory and office facilities at the West Central Nebraska Research and Extension Center headquarters at North Platte. The operation of the North Platte Field Site and the Lincoln Analytical Laboratory would be funded from a combination of state, private and federal sources. Of the estimated $4,000,000 of state operating funds for the next five years, about $2,361,500 would be from redirection of existing funds. The remaining $1,700,000 will be sought from state appropriations as part of an accelerated hydrology program endorsed by a Board of Regents resolution (see attachment). Of the $1,985,000 in private funds, an estimated $1,295,000 is pledged including the land for the field site. The operating support from federal sources would be from such agencies as the U.S. Geological Survey, the U.S. Environmental Protection Agency and the National Science Foundation in the amount of about $1,000,000 in research grants over the next five years (this amount is typical of previous grants). The total cost of the Northern Great Plains Solute Movement Laboratory would depend upon the number of field laboratory sites.

The above breakdown shows a cost share of a little over 54% by non-federal sources in the total cost of facilities and operation.

ESTIMATED FIVE YEAR BUDGET

ESTIMATED FIVE-YEAR BUDGET FOR A SOLUTE MOVEMENT LABORATORY SYSTEM
UNIVERSITY OF NEBRASKA PRIVATE GRANTS/GIFTS AND FEDERAL SUPPORT

	State	Private	Federal Water Grants	Special Federal Funds	TOTAL
UN-L Campus-Solute Movement Analytical Laboratory					
Staff Support (5 professional, technician, operating)	$2,500,000	200,000			$2,700,000
Laboratory/Office Development				1,090,000	1,090,000
Equipment, Instrumentation	250,000			1,210,000	1,460,000
Special Project Support		975,000	1,000,000		1,975,000
TOTALS	$2,750,000	1,175,000	1,000,000	2,300,000	$7,225,000
West Central Research & Extension Center Field Solute Movement Laboratory					
Staff support (2 professional, technician, operating)	$ 961,500				$ 961,500
Laboratory/Office Development		300,000		751,700	1,051,700
Field Lab Land		320,000			320,000
Field Lab Buildings	300,000	50,000			350,000
Equipment, Instrumentation	50,000	50,000		948,300	1,048,300
Special Project Support		90,000	75,000		165,000
TOTALS	$1,311,500	810,000	75,000	1,700,000	$3,896,500
GRAND TOTALS	$4,061,500	1,985,000	1,075,000	4,000,000	$11,121,500

RESOLUTION PASSED BY THE BOARD OF REGENTS
Of The University of Nebraska

Presented By

Regent Robert G. Simmons, Jr.
January 18, 1986

WHEREAS, the State of Nebraska has the largest underground water resources in the United States, with the accruing agricultural/industrial opportunities and natural resource responsibilities; and,

WHEREAS, there is a growing national concern for the protection of groundwater quality, both from general industrial pollution and from the extensive use of fertilizers and pesticides in commercial agriculture through direct applications to the land through irrigation systems; and,

WHEREAS, existing or proposed regulatory legislation is not supported by an adequate research base related to the control of water quality and groundwater use; and,

WHEREAS, the University of Nebraska has responsibilities to generate basic research, educational programs and management practices for commercial applications; and,

WHEREAS, the Board of Regents has previously recognized the importance of research and educational responsibilities in the field of water, by stating in the Agriculture 2001 Report: "We recommend a greatly enhanced program in the teaching, research and extension with a major emphasis on research to include water management, water quality ..."; and,

WHEREAS, the water science curriculum of the University of Nebraska-Lincoln should be strengthened to be commensurate with the research evidence and educational programs for Nebraska citizens regarding water quality protection and water use;

NOW, THEREFORE, BE IT RESOLVED, that the Board of Regents of the University of Nebraska:

1. Recognizes the importance and high priority of a strong water science graduate program at UNL.
2. Endorses existing plans to strengthen Hydrology graduate programs at UNL through reallocation of resources, requests for additional state funds, and proposals for outside grant and contract funds.
3. Encourages the development of a proposal for federal funding, to be submitted to the most appropriate agency, to support a Northern Great Plains Solute Movement Laboratory in Nebraska.

LETTER FROM GOV. ROBERT KERREY OF NEBRASKA

February 20, 1986

This is to endorse the concept of a Northern Great Plains Solute Movement Laboratory being presented to you by a group of citizens from North Platte and the University of Nebraska.

As you know, this office has been very interested in protecting the ground water quality of the State of Nebraska. We have been working closely with the U.S. Environmental Protection Agency (EPA) over the past few years. The Nebraska Department of Environmental Control (DEC), EPA and the University of Nebraska-Lincoln (UNL) co-sponsored a workshop in 1984 on research and educational needs relating to ground water protection.

In 1985 Nebraska became one of the first states to develop a Ground Water Quality Protection Strategy and, in fact, became the first state to receive a federal ground water quality grant. The Department of Environnmental Control was instrumental in developing this strategy and has assumed a leadership role in legislation and programs focused at protecting the quality of Nebraska's valuable ground water resource.

We also find that the citizens of the state, along with industry in the region, are interested in maintaining a good supply of fresh ground water. For example, a group of citizens have recently formed a Nebraska Groundwater Foundation and the Burlington Northern Railroad Foundation has given the University a grant to study the impacts of the new technology of chemigation. This grant, along with funds from EPA, has resulted in a National Chemigation Workshop with proceedings to be published soon.

This interest has been a key to the emerging reputation for Nebraska as a leader in developing programs for wise, safe and efficient use of agricultural chemicals. We feel that the establishment of a Northern Great Plains Solute Movement Laboratory in Nebraska will greatly enhance the protection of the ground water in the region while allowing for the continued use of these agricultural chemicals so important to the economy of the region. This laboratory will also assist Nebraska in the attainment of the goals outlined in our Ground Water Protection Strategy.

I support the concept presented in the proposal for a Northern Great Plains Solute Movement Laboratory and the need to shape Nebraska's ground water quality protection programs based on site-specific research. I also support strong coordination between the Department of Environmental Control, U.S. EPA and the University so as to assure research focused toward the most immediate ground water protection needs.

If this office can be of service as you seek federal funds for this laboratory, please feel free to contact me.

Sincerely,

Robert Kerrey
Governor

STATEMENT OF GOV. ROBERT KERREY OF NEBRASKA

Dear Senator Hatfield:

This letter is to express my continued support for the Bureau of Reclamation's fiscal year 1987 funding request of $14,035,000.00 for the continued construction of the North Loup Division.

The North Loup Division will provide sustained irrigation for 53,000 acres in Central Nebraska, as well as increased recreation and fish and wildlife enhancement opportunities.

The Nebraska Game and Parks Commission entered into a cost-sharing agreement under Public Law 89-72 for the construction of recreation facilities at the Calamus Dam and Reservoir. The Agreement calls for 50% Federal and 50% State funding. However, Nebraska has provided $540,000 through appropriations from our General Fund and $528,000 from our Recreation Roads Fund, a special use fund financed by a fee on motor vehicle registrations. The Federal contribution will be $570,000.

The Game and Parks Commission will also operate and maintain the recreation facilities. The fiscal year 1987 state appropriation includes $117,000 of general funds for this purpose.

The Game and Parks Commission has also stocked 2,800,000 fish in Calamus Dam and Reservoir since the early stages of filling.

While Nebraska's revenues are falling below projected levels and we are severely limiting new commitments, the Game and Parks Commission has made a serious commitment to fulfill its intention to make Calamus Dam and Reservoir recreation facilities a reality.

The Game and Parks Commission has executed a similar Cost Sharing Agreement for the initial fish stocking and the construction of a Fish Hatchery below the Calamus Dam and Reservoir. The consumation of this Agreement is contingent upon an increase to the authorized project ceiling and appropriations.

I urge the Subcommittee's continued support for an appropriation of $14,035,000.00 for Fiscal Year 1987 and to provide appropriate authorization to complete the construction of the North Loup Division.

STATEMENT OF THE TWIN LOUPS RECLAMATION DISTRICT AND THE TWIN LOUPS IRRIGATION DISTRICT

My name is Cyril P. Shaughnessy. I am an Attorney at Law residing at St. Paul, Nebraska. This Statement is made in support of the continued construction of the North Loup Division, Nebraska Project. The Budget Allotment of $14,036,000.00 for Fiscal Year 1987 is sought for the continued development, conservation, and wise use of the Water and Land Resources in the North Loup and Loup River Valleys.

It is my privilege to make this Statement on behalf of the Twin Loups Reclamation District and The Twin Loups Irrigation District. These Districts are the sponsoring organizations for the North Loup Division, Nebraska Project. This Multi-purpose Project is located in the Loup River Basin in Central Nebraska. This Project when completed will irrigate approximately 53,000 acres of land, provide ground water recharge, and will provide not only a stable and economical water supply for irrigation purposes, but will open opportunities for new agri-business, stablize employment, and provide much needed recreation, fish and wildlife.

Mr. Chairman, permit me to express to you on behalf of the Directors of the two Districts their thanks to you and your Committee for your past support of the North Loup Division, Nebraska Project.

Exciting and happy events will occur on the 3rd and 4th of July of this year when the North Loup Division will be formally dedicated. This will be a gala celebration, especially so, for our Board members, some who have worked for over 40 years to see this day a reality.

We believe at this point of time that we should submit to you and your Committee a brief progress report.

Water storage in the Calamus Dam and Reservoir began in October, 1985, and approximately 2,500 acres of water surface already have formed behind the Calamus Dam. Representatives of the Bureau of Reclamation informs us that they will fill the Calamus Dam and Reservoir in thirds over a three year period, carefully observing all instrumentation in the dam structure to assure the utmost safety during the initial filling process.

We are also informed that the Mirdan System will be completed early this Fall, and that the Geranium Systen should be completed early next Spring. That construction will bring initial irrigation service to some 22,670 acres for the Irrigation Season commencing in May of 1987. This is indeed a long awaited event since the initial concept of the North Loup Division was envisioned in the original Pick-Sloan plans of the Flood Control Act of 1944. It has been 27 years since the Bureau of Reclamation released the specific North Loup Division plans in 1959. Incidentally, that plan is nearly identical to the Project as it is being contructed.

Construction of recreation facilities around the Calamus Dam and Reservoir are under construction. The boat ramps are finished. Construction of the asphalt recreation roads, turnouts, parking areas, and camping pads is under contract by the Nebraska Game and Parks Commission through the Nebraska Department of Roads and will be completed in Mid-summer. By this Fall it is anticipated that all the utilities, shelters and equipment will be in place.

Public Law 89-72 provides for cost-sharing of recreation facilities on a 50-50 basis, Federal and non-Federal. In the case of recreation facilities at the Calamus Dam and Reservoir, Federal funding will amount to about $570,000.00 while State funding will amount to about $1,040,000.00.

A Second Agreement for cost sharing of fish and wildlife enhancement facilities under Public Law 89-72 was executed with the Nebraska Game and Parks Commission on May 31, 1985. The Agreement provides for cost sharing, 75% Federal and 25% State, for a Fish Hatchery below the Calamus Dam and Reservoir and for initial fish stock in the Calamus Dam and Reservoir. Federal funding is contingent upon increases in the authorized cost ceiling; however, the State of Nebraska has already stocked some 2,810,000 fish at a cost of about $181,500.00. This with no guarantees of any cost-sharing.

The Nebraska Game and Parks Commission is preparing to operate and maintain these recreation facilities on July 1, 1986. The Nebraska Legislature's Budget Committee has included $117,000.00 for operation and maintenance of the recreation developments surrounding the Calamus Dam and Reservoir and we are confident that these funds will be available to the Nebraska Game and Parks Commission when Nebraska's Fiscal Year of 1986 begins on July 1, 1986. The State of Nebraska's commitments to the financing, construction, operation, and maintenance of the recreation development associated with the North Loup Division has been outstanding. With the severe strain on Nebraska's revenues caused by the continuing agricultural and agribusiness depression, the State's support is doubly outstanding.

You will note we have just summarized construction progress to date. As you can observe, the majority of construction progress to date has been on the Water Supply Works. We now need to complete the construction of the Distribution Works. Before any further major contract awards can be made, the authorized appropriations ceiling must be raised. The North Loup Division Project, like all other projects, and especially those planned many years ago, is caught in a situation of a limited authorized appropriation ceiling through no fault of the Reclamation District and the Irrigation District or the good people of our area who need this irrigation water to have an opportunity to stabilize their farming operations thereby enhancing their way of life in the Loup River Valleys.

The last contract award for a major feature was in March of 1985, when the Geranium System contract was awarded. The next contract award for a major feature, the Scotia System, is now scheduled for August, 1986, provided the authorized appropriation ceiling can be increased. We are further informed by the Bureau of Reclamation that rights-of-way acquisition for the Davis Creek Dam has been delayed pending ceiling increases. We understand that an award could be made in about nine months after such ceiling increases are made for the construction of the Davis Creek Dam.

On March 24, 1986, the Twin Loups Reclamation District executed a contract with the Bureau of Reclamation to undertake the operation and maintenance of the Water Supply Works and the Distribution Works during the interim period after construction is complete and before the time when the operation and maintenance responsibility is formally transferred to the Reclamation District and the Irrigation District under the terms of their respective Repayment Contracts.

Another contract with the Bureau of Reclamation providing that the Twin Loups Reclamation District will perform minor contruction activities associated with bringing the project facilities into full operation status has been tenatively agreed upon. We have every reason to believe that this Drainage and Minor Construction Contract will be executed by both parties forthwith.

A contract to construct the Operation Headquarters Building and Maintenance Yard near Scotia, Nebraska and the Caretaker's Resident at Calamus Dam and Reservoir was awarded on February 27, 1986 to Courtney Day, Inc., of Kansas City, Missouri. Completion of these facilities is scheduled for this coming Fall when our Districts plan to begin the staffing of an operation and maintenance organization to deliver irrigation water to our irrigators in the Spring of 1987.

On April 3, 1986, the Board of Directors of The Twin Loups Irrigation District approved a Contract creating an Operating Authority pursuant to the terms of the Irrigation District's Repayment Contract. This Contract provides the means of obtaining the optimum in the care, maintenance and operation of the Water Supply

Works and the Distribution Works of the respective Districts. Then on April 7, 1986, the Board of Directors of the Twin Loups Reclamation District pursuant to the Reclamation District's Repayment Contract approved the Contract and, on that date, the officers of both Districts signed the Contract creating an Operating Authority.

Recently, the Boards of Directors were able to retain Mr. Keith Davis as the Acting Manager for the two Districts. Mr. Davis has recently retired as manager of the Loup Basin Reclamation District and his years of experience and expertise will be valuable to our Districts as we work with the Bureau of Reclamation on O&M matters.

On April 7, 1986, Mr. Ronald Wolf of Sargent, Nebraska, was retained as Manager for the two Districts. For approximately ten years, Mr. Wolf was employed as Unit Superintendent for The Sargent Irrigation District and the Loup Basin Reclamation District. His experience and Mr. Davis' guidance, the Directors enthusiastically look forward to an orderly implementation of the interim care, maintenance and operation of the Water Supply Works and the Distribution Works under the Operation and Maintenance Contract with the Bureau of Reclamation.

Your Committee already has thousands of letters of support for the North Loup Division in the records, and accordingly, we are not going to burden you with any more. However, let us assure you and your Committee that this support remains solid and continues to grow. We still receive inquiries from additional land owners requesting permission to receive irrigation service. Regretfully, the Boards cannot accommodate these requests at this time since full service to the 53,000 acres has already been authorized.

As you can observe from this report, that on this date, April 16, 1986, we are on threshold of seeing the North Loup Project completed to serve the alloted acreage. The Directors of both District are keenly aware of the restraints of Gramm-Rudman. Construction of the North Loup Division is beginning to slip and funding for its continued construction has been reduced substantially from Fiscal Year 1985. The appropriations for the North Loup Division in F. Y. 1984 were $36,420,000.00; F. Y. 1985 were $40,370,000.00; F. Y. 1986 were $24,249,000.00; and the F. Y. Budget Request before you Subcommittee is $14,036,000.00. The foregoing appropriations reflect a 65% reduction for funding for the continued construction of the North Loup Project in just two years. As stated, the Calamus Dam and Reservoir is fully completed. The Mirdan System and the Geranium System should be completed so that irrigation service some 22,670 acres can be provided for in the Summer of 1987. Accordingly, more that fifty percent of the North Loup Project is completed.

We are now confronted with the matter of having the assurance of this Sub-Committee that subsequent funds will be appropriated for the full and complete construction of the North Loup Division.

There is an old Adage in the Law that where there is a benefit there is a detriment. The detriment in this case is the matter the continued appropriations to assure the completion of the North Loup Project. We strongly support your endeavors on our behalf and pledge to you on this day that within the ability of the Water Users to so do, our Board of Directors stand firmly behind your Sub-Committee to authorize appropriations to complete the construction of the North Loup Division.

Hope is enternal. As in past years, farmers in our area are presently preparing their lands for the 1986 growing season. Those same farmers continue to express to our Directors that they are beginning to see "the light at the end of the tunnel" and that beginning in the Spring of 1987, those farmers residing in the Mirdan and Geranium Area will be assured of an adequate water supply to grow their crops to maturity. At that point of time those farmers and water users residing below the Mirdan and Geranium Area will know that in subsequent years, they too will be able to reap the benefits of a full and complete water supply to assure them of a stable and ecomonic way of life in the years ahead.

In summary, we are pleased and proud to have been able to give you, Mr. Chairman, and your Committee, this Progress Report. We are grateful to you and your Committee's past support of the North Loup Project. At this time, we request your favorable consideration for the continued funding of our North Loup Project and for your affirmative action to authorize appropriations to complete the construction of the North Loup Division.

Again, we thank you, Mr. Chairman, and your Committee for your long standing support of the North Loup Project.

STATEMENT OF THE NEBRASKA WATER CONSERVATION COUNCIL

SUMMARY OF REQUEST

PRAIRIE BEND UNIT, BUREAU OF RECLAMATION, FY87 BUDGET

Nebraska Water Conservation Council supports funding for FY87, provided that the Appropriations Committee report specify that certain studies be completed by the Bureau of Reclamation. These studies are:

1. verification of hydraulic model for Platte River.
2. daily flow model that includes the North and South Platte Rivers in Nebraska.
3. sediment transport model
4. complete biologic models for endangered wildlife species and for the Sandhill Crane and ducks and geese.

NWCC appreciates Appropriations Committee attention to this request for specific report language.

Mr. Chairman, Members of the Subcommittee:

My name is Michael Dennis, I am the Education Project Director, Nebraska Water Conservation Council (NWCC). NWCC is a 5000 member, citizen lobby organization which seeks to educate Nebraskans about sound water conservation and management, and to support legislation and policies to bring this about. The Water Education Project provides research and program support for NWCC.

NWCC was formed four years ago specifically to conduct a campaign to deauthorize the Norden Dam-O'Neill Unit on the Niobrara River in north-central Nebraska. Our success in that work is reflected in part in the current planning of a non-dam alternative. Almost three years ago NWCC began to broaden its program to include other Nebraska water issues. These have included establishing legal protection for instream uses of river water and groundwater quantity and quality protection. NWCC has been actively involved in the current feasibility study process on the Prairie Bend Unit in the central Platte River valley. This study and the Platte River are the basis of my testimony.

NWCC supports FY87 funding for Prairie Bend Unit feasibility study, provided the study can accomplish several objective. These are study of of Platte River water availability, wildlife habitat requirments, and economic analysis utilizing current crop price and yield information. These are discussed below.

The Bureau of Reclamation is 30 months into a feasibility study for the Prairie Bend Unit in Nebraska. FY 87 budget requests, if funded, will bring the Bureau to the end of its "two-stage" planning. At that point Congress may consider project construction authorization. There are other studies and other projects under review on the Platte, North Platte, and South Platte Rivers in Colorado, Wyoming, and Nebraska. These include the Narrows Unit and the Platte River Joint Management Committee sudy that grew out of stalemate on Narrows wildlife problems, Federal Energy Regulatory Commission relicensing of Kingsley Dam on Lake MacConnaughy, and other projects, both private and public. Bureau study on Prairie Bend has already provided information that is highly important for management decisions on all Platte River basin projects.

While Prairie Bend project alternatives have been presented to the public for review, a preferred plan has not been selected by the Bureau. That plan, originally due last September, is now due in May. Economic and environmental benefits of the alternatives remain unclear. Study of the availability of water from the Platte River, which are limited due to endangered species and migratory waterfowl needs, have not been completed.

Preliminary benefit/cost analysis of project alternatives for agriculture would not support project construction. Although b/c ratios above 1:1 were projected, assumptions of crop price and yield were, in the opinion of NWCC, inflated and violated the Principle and Guidelines for water project planning. Initial Bureau prices were 30 percent above those set by USDA for project analysis, while crop yields were 30 percent to 50 percent higher than current Prairie Bend area yields. Following public and state government criticism the Bureau promised to reevaluated its analysis. We are awaiting a new b/c analysis of the alternatives.

Stabilizing area groundwater levels is the primary objective of Prairie Bend study. Eighty-five percent of the study area is irrigated, primarily from aquifers, and 95 percent of area crop production is corn for grain. Diversions from the Platte River would be used to "recharge" these declining aquifers to continue intensive corn production. Without supplemental waters, the Bureau projects that up to 40,000 acres could be forced into dryland crop production. Additional acreage could suffer from increased pumping costs. The Bureau also believes that management controls on groundwater use can stabilize production losses at the 40,000 acre-level.

Enhancement of groundwater quality is another study objective. Nitrate contamination from nitrogen fertilizers is a major problem. This is a particular problem in Prairie Bend due to the high use of irrigation and intensive corn production in association with shallow water tables. Average nitrate concentrations in a 40-mile area between Kearney and Grand Island are twice the federal Safe Drinking Water Act standard and are deteriorating. Communities have been forced to abandon drinking water wells, and increasingly turn to the Platte River alluvial sands for new supplies. Project alternatives presented by the Bureau would have limited or uncertain benefits for groundwater quality. According to the Bureau, fertilizer management could stabilize contaminant levels. Analysis has, however, been rudimentary and confidence cannot be assigned to Bureau conclusion, NWCC believes.

Prairie Bend would divert water from the Platte River. Availability of water depends on meeting the needs of federally endangered species and migratory waterfowl needs. Failure to address the questions of water availability for these needs has been a reason for halting every federal water development initiative in the Platte River basin. Prairie Bend feasibility study has gone very far to answer these questions. However, the position of the Bureau at present is that it need not complete several of the studies that private wildlife management interests feel is essential if any decision is going to be made in support of water development projects. We cannot overstate the critical need for any management decision made now or in the future to be based on information that can come out of the Prairie Bend study process. Conflicts will not be resolved without this.

Several technical tasks remain. First, there is a need to quantify instream flows needed to maintain wildlife habitat. This is a two-step process requiring selection and verification of a hydraulic simulation model, and demonstration of the models predictive capability against biologic models for wildlife species. The Bureau is not proposing to verify its existing simulation model, although species models are contemplated. Second, flow management alternatives of water development and instream needs must be established. This will require a daily flow management model. This model exists and has been tested for a small portion of the Platte River. It is, however, inadequate, since it does not include predictive capability for the North and South Platte Rivers. We cannot rely on monthly flow models to give needed management information. The Bureau has indicated it will not complete the daily flow analysis. Finally, a sediment transport model is needed to understand which flows are needed to maintain a clear, unvegetated, braided channel in the Platte. The Bureau contemplates work on this sediment model.

The Bureau should be specifically directed to complete the water availability and wildlife anaysis.

The Nebraska Water Conservation Council supports completion of the Prairie Bend feasibility study, provided the Bureau fully completes needed economic and Platte River analysis. The Council has separately criticized the Bureau in the past several months for conduct of its public involvement process and its deficient presentation of conservation alternatives to Platte River diversion. These reports by the Council are included as exhibits to this testimony for your review. The Bureau has improved, in our opinion, the conduct of its public process, but must still meet a number of the informational requests brought to it by the Council and others. We remain actively committed to the public involvement process.

Water development on the Platte River is not impossible, but requires, at a minimum, the consensus of a number of diverse interests. Through the remaining feasibility study process the Bureau and Prairie Bend project proponents have the ability to make and strengthen that consensus. This cannot be acheived unless the study needs addressed above are met.

Thank you for your time and consideration of this testimony.

STATEMENT OF THE CEDAR VALLEY RECLAMATION DISTRICT

My name in Michael J. Shaughnessy of St. Paul, Nebraska. I am an attorney, and I represent the Cedar Valley Reclamation District. I present to you this statement as written testimony on behalf of the Cedar Valley Reclamation District to request an appropriation of $55,000.00 to continue funding of the Loup River Basin Management Study.

The Cedar Valley Reclamation District is the sponsoring entity for an irrigation project in Central Nebraska located in the Cedar River Valley. Briefly, the proposed irrigation project would consist of a dam and reservoir near Spalding, Nebraska, and irrigate approximately 23,000 acres in the Cedar River Valley through gravity irrigation. The Cedar Valley Reclamation District is also the sponsoring authority for the Loup River Basin Management Study.

The District, together with the Bureau of Reclamation, and other State Agencies are cooperating in the Study. The Bureau of Reclamation would commence the study in the Cedar River Valley.

As this Committee may know, funding for the Study was approved last year, and funds are now necessary to continue the Study.

The Loup River Basin in Nebraska is a major water source for Central and West Central Nebraska. The Cedar River is a tributary of the Loup River. The Cedar River begins in the Sandhills of Nebraska, and flows into the Loup River near Fullerton, Nebraska.

As this Committee was previously informed, the purpose of the Loup River Basin Management Study will be to assist Federal and State Planners with an intelligent analysis of the water supply for the Loup Basin. The Loup Basin has several irrigation districts in operation including the Loup Basin Reclamation District, The Sargent Irrigation District, The Farwell Irrigation District, the Twin Loups Reclamation District, The Twin Loups Irrigation District, Middle Loup Public Power and Irrigation District, and North Loup Public Power and Irrigation District. It is imperative for future water development in the Loup River Basin that our water supply be quantified and clarified.

We anticipate that the total Study will cost $1.5 Million. The State of Nebraska is cooperating on a cost share basis of 50%-50%. The Study will be at least a four year effort, and much of the cost share will come from the continuing study of the Sandhills in Nebraska by the Natural Resource Commission of Nebraska. It is anticipated that the State of Nebraska will be able to meet its cost share because of the Sandhills study, and its commitment to water development in Nebraska. Because of the State's commitment to cost share, it is imperative that funding for the Study be continued.

Of course, the primary concern for the Cedar Valley Reclamation District is the study of available water supply for purposes of irrigation. As I have previously stated to this Committee, it continues to be my judgment that the citizens of Nebraska will always be primarily supported economically by its agricultural base.

In closing, Mr. Chairman, and members of the Committee, I wish to re-emphasize my belief that the future of a strong economic base in Nebraska depends upon a strong agricultural base. A strong agricultural base further depends upon the ability of farmers in Nebraska to have available to them a dependable water supply for irrigation. Last year we submitted to this Committee, our support letters from Governor Kerrey of Nebraska, the Directors of the Nebraska Natural Resource Commission, the Nebraska Department of Water Resources, the Lower Loup Natural Resource District, Mayors and County Board Chairmans, Businessmen and Individuals in the Cedar River Basin Area. As I have previously stated, the requested Loup River Basin Management Study has a wide range of support.

STATEMENT OF THE CENTRAL PLATTE NATURAL RESOURCES DISTRICT

REQUEST:	$401,000.00 for Fiscal 1987
FUNDING PURPOSE:	Completion of Feasibility Study by U.S. Bureau of Reclamation
PROJECT:	Prairie Bend Unit
LOCATION:	Dawson, Buffalo and Hall Counties in Nebraska
PROJECT PURPOSE:	Irrigation, stabilization of ground water levels, enhancement of water quality, small community and rural domestic water supplies, fish and wildlife habitat, flood control, public outdoor recreation and other purposes determined to be appropriate.

My name is Ron Bishop and I am General Manager for the Central Platte Natural Resources District. Our Central Platte Natural Resources District covers part or all of the ten counties in south central Nebraska that encompass the Platte River and its drainage areas along a 175 mile stretch extending from Gothenburg, Nebraska on the west to Columbus, Nebraska on the east.

A number of serious problems and critical needs relating to water exist within our Natural Resources District area. The economy of the area and the well-being of the people residing therein is dependent upon irrigated agriculture with the primary source of irrigation water being ground water.

The ground water levels, however, have been declining, causing an increase in pumping costs and an accompanying reduction in well production. The current ground water level declines of up to 25 feet are predicted to increase over the next 20 to 35 years to the point where thousands of irrigated acres will revert to dry-land without some kind of a supplemental supply project.

Additionally, each and every one of the over one hundred thousand residents within our Natural Resources District gets their drinking water supply from ground water but ground water quality problems have developed in the eastern half of our District to the point where a number of municipalities have had to abandon wells because the nitrate levels exceeded the U.S. Public Health Service's published maximum safe level for human consumption.

The area is also subject to infrequent but severe flooding. The single flood event of June 1967 caused over $30,000,000.00 worth of damage in the eastern half of our Natural Resources District alone.

In addition to those three major problems there are also some needs related to water within our area.

First of all, there is a need to maintain adequate water supplies for the waterfowl, fish and wildlife that currently utilize the area. The Big Bend area of the Platte River Basin in Nebraska plays host to five to seven million migratory waterfowl each and every year.

There is also a need within our area for water based recreation facilities for our residents and the other residents of central Nebraska.

Senator James Exon, Senator Edward Zorinsky, Congresswoman Virginia Smith and our Natural Resources District along with several other organizations, groups, associations and individuals have been working for a number of years toward getting a water resources project implemented in the area that would resolve those problems and address those needs.

The project that is needed and envisioned by the study sponsors, which are our Natural Resources District, the Central Nebraska Conservation Association and the Twin Valley Conservation Association, is not a single purpose irrigation project but a comprehensive multi-purpose water resources project.

We have good reason to believe that one project could:

(1) supply supplemental irrigation water
(2) stabilize the declining ground water levels
(3) enhance ground water quality
(4) protect and enhance the quality of the municipal, small communities and rural domestic water supplies
(5) provide fish and wildlife habitat
(6) provide flood control and reduce flood damage, and
(7) provide public outdoor recreation for the residents of south-central Nebraska.

In addition, we feel the project can be designed so that it recognizes and addresses the need for maintaining flows in the Platte River at the critical times for such instream and downstream uses as:

(1) ground water recharge for irrigation and rural domestic supplies
(2) induced recharge for municipal water supplies
(3) migratory waterfowl
(4) maintenance of sub-irrigated crops
(5) maintenance of wet meadows and wetlands
(6) water quality enhancement in surface and ground water, and
(7) fish and wildlife.

We have already made a considerable amount of up-front progress toward making the project a reality. Numerous studies, programs and data gathering efforts have been conducted that will aid in the preparation of the feasibility study.

(1) Water Quality Studies. The water quality studies and programs that have already been conducted will be beneficial to the planning of the water resources project as it relates to identification of water quality problem area, extent of the problem and effective methods of improving the ground water quality.

The local people, through our Central Platte Natural Resources District, have provided over $400,000.00 in cash toward those studies to date, in addition to the hundreds of man hours involved.

The funding by the State of Nebraska toward those studies has been approximately equal to the local contribution.

(2) Ground Water Model. Our Central Platte Natural Resources District and the Lower Loup Natural Resources District, which borders us on the north, under contract with the U.S. Geological Survey, has developed a detailed ground water flow model of the ground water basin lying between the Loups and Platte River from the Lincoln-Dawson County line eastward, which encompasses the proposed project area.

The approximate cost of this ground water flow model and its subsequent operation is $250,000.00 with assistance through the U.S. Geological Survey on the original development costs.

The ground water model is now available as a planning tool in evaluating the various alternatives available for the water resources project.

(3) Study of Engineering Alternatives. Our Natural Resources District contracted with the Denver, Colorado office of the engineering firm of CH2M Hill to look at various project alternatives available to the local people. One set of alternatives the firm evaluated was the physical or engineering alternatives available to address the water supply needs of the project area.

(4) Study of Financial Options. Another set of alternatives evaluated by CH2M Hill firm were the options available to the local people for financing or assisting in the financing of the water resources program.

(5) Study of Institutional Options. The third set of alternatives evaluated by CH2M Hill for the District were the options available to the local people for establishing an organization to develop, manage and operate a water resources program.

The studies by the private firm of the engineering alternatives along with the study of the financial and institutional options was done under contract to, and paid for by, the Natural Resources District at a cost of approximately $35,000.00.

(6) Hydrologic and Water Resources Investigation. The engineering firm of Henningson, Durham and Richardson from Omaha, Nebraska conducted an investigation of the water availability in the Platte River and the preliminary water needs of the proposed project area. The investigation and studies by Henningson, Durham and Richardson were done under contract to, and paid for by, local interests at a cost of approximately $23,000.00.

(7) U.S. Bureau of Reclamation's Appraisal Study. The Bureau made an evaluation of a supplemental water supply project for the eastern part of the proposed project area during their Upper Platte Basin Study.

The water budget studies indicate that ultimately some 35 to 40 percent of the arable land may be without a reliable water supply for irrigation purposes without a project.

Additional problems resulting in the predicted water table decline would include increased degradation of ground water quality and loss of wet meadow areas north of and adjacent to the Platte River.

(8) Central Platte Natural Resources District's Groundwater Management Plan. The Natural Resources District, in an effort to maximize the conservation and protection of our ground water supplies, has recently completed a ground water management plan that will complement the Prairie Bend Unit project. That ground water management plan has received the approval of the State of Nebraska and is scheduled to be implemented over the next 18 months.

All of the data from these plans, studies, programs, research and activities lead us to several conclusions:

(1) The water resources project is feasible from both an engineering and an economic viewpoint;

(2) There is sufficient unused flows in the Platte River that passes right through our Natural Resources District to provide the supplemental water needed;

(3) There is sufficient water available to recharge the ground water aquifer and stabilize the now declining ground water levels;

(4) That ground water recharge can also enhance ground water quality and protect the municipal, small community and rural domestic water supplies;

(5) There are good reservoir sites for the necessary storage available on Prairie Creek and on Wood River and its tributaries;

(6) Soils within the project area are highly suitable for irrigation with most of the land falling in the Soil Conservation Service's classification of "prime" agricultural land;

(7) Benefits from the project would more than cover the costs of building and operating the project;

(8) Large monetary, environmental and aesthetic benefits would occur from the development of fishing, wildlife and recreational aspects of the water and land use;

(9) Major flood control benefits could occur at little or no additional cost;

(10) Analyzing the project from an irrigation standpoint alone should have a favorable benefit:cost ratio of approximately 1.6 to 1;

(11) The Bureau of Reclamation indicated from their studies that a feasibility study of the project appears to be justified. both on the basis of need and on the basis of probable economic feasibility.

In summary, while we have major problems, there is a feasible solution. Feasible both from an engineering and an economic standpoint. The solution is a multi-purpose water resources project.

Our Natural Resources District Board, many other organizations from the area and people from our region are in support of, and committed to, this project.

We have the support of the State of Nebraska and we now have the necessary legislation. The U.S. Bureau of Reclamation was

authorized and funded to initiate the necessary feasibility studies in mid 1983 and began the investigations in the fall of 1983.

We are confident that a multi-purpose water resources project will prove to be feasible and, when developed, will make a major contribution to the stability of Central Nebraska's economy and to the people of the region and their well being, as well as enhance the fish and wildlife resources. We have contracted with the Bureau of Reclamation and are cost-sharing $240,000.00 of the feasibility study's cost plus considerable additional in-kind services.

To make such a program a reality we need your continued help and we need the continued help of the U.S. Bureau of Reclamation.

We would hope that you would all lend your strong individual and committee support to the Federal appropriation of at least $401,000.00 for Fiscal 1987 so that the Bureau of Reclamation can complete the feasibility study that we so earnestly need.

Thank you.

STATEMENT OF THE NEBRASKA DEPARTMENT OF WATER RESOURCES

The Nebraska Department of Water Resources has worked closely with the Twin Loups Reclamation District since its first water rights application was filed on June 17, 1957. Construction of the North Loup Division is now well over half completed. Storage in the Calamus Reservoir began in October 1985.

We look forward to working with both the Twin Loups Reclamation District and the Twin Loups Irrigated District during the initial irrigation development of the 53,000 acres in their project.

Please note our support for the fiscal year 1987 construction request. We wish also to urge your subcommittee to authorize appropriations to complete the construction of the North Loup Division.

STATEMENT OF THE NEBRASKA NATURAL RESOURCES COMMISSION

The Nebraska Natural Resources Commission again wishes to reaffirm its strong support for the continued construction of the North Loup Division, Pick-Sloan Missouri Basin Program in central Nebraska. The Commission has steadfastly supported this project since the early days of planning.

Accordingly, we urge support of the fiscal year 1987 budget request for $14,035,000 and thank the subcommittee for your past suport of this project. We also urge your committee to authorize appropriations to complete the construction of the North Loup Division.

ADDITIONAL PREPARED STATEMENTS

Senator **Burdick**. We have two additional statements to place in the record—one regarding the Rochester flood control project in Minnesota and one from the Platte River Whooping Crane Trust.

[The statements follow:]

STATEMENT OF THE ROCHESTER CITY COUNCIL AND CITIZENS OF ROCHESTER, MN

I am writing to you on behalf of the Rochester City Council and the citizens of Rochester, Minnesota to respectfully urge your approval of the appropriation for construction funding for the South Fork Zumbro River Corps of Engineers Project in Rochester, Minnesota. There has been widespread support for this project which is appreciated by the local community. I would mention that in addition to the approval provided by the Senate in S.1567, this project has also been included in H.R.6, the Water Projects bill which was approved in the House of Representatives. This project is also contained in the President's 1987 budget as a proposed new construction start. A companion SCS Watershed Flood Control project has previously been approved by Congress and is currently under construction.

Rochester is a southeastern Minnesota city of 60,000 which is located on the South Fork of the Zumbro River. Four major streams enter the Zumbro River in the Rochester City limits. Almost 1/3 of the City lies in the floodplain. The City has suffered substantial flooding throughout its history. Since 1951, the Zumbro has left its banks 13 times, an average of once every 2.5 years.

The greatest threat of flooding in Rochester comes from summer rain storms. Heavy flooding creates a flash flood condition which is impossible to prepare for and which does not allow for adequate warning or evacuation of residents.

The Environment and Public Works Committee report on S.1567 includes a brief description of this $60.5 million channelization project. It also includes an estimate that a 100 year flood in Rochester would cause over $100 million in damages. The citizens of Rochester have had personal experience to document that this damage estimate is accurate. In July of 1978, a 6 inch spring rain storm caused over $60 million in damages in 1978 dollars. A few additional statistics may help you to understand the magnitude of the problems caused by that one storm. The 1978 flood took five lives. Flooding damaged more than 2,200 homes, over 200 businesses, 21 industries, and 10 public buildings. The City's electric power plant, wastewater treatment plant and water supply system received damage which caused further hardships to the entire community.

The City has been working since 1952 with the Army Corps of Engineers to develop a plan to alleviate this flooding problem. We sincerely hope that the inclusion of the South Fork Zumbro River project in the 1987 budget finally represents the light at the end of the tunnel.

The City has been a constant supporter of this project throughout this long process, despite the substantial increases in the local cost share for this project from $2.6 million in 1971, to $7.0 million in 1978, to $15 million in 1986. This increase in the local cost can only be absorbed with great difficulty, but it is a commitment which the community has been willing to make. In 1983, the citizens of Rochester approved by referendum a special tax to finance the local cost share for the flood control program. The City has collected approximately $5 million dollars thus far for the local City cost share required for the flood control program. We believe that these efforts by our citizens to raise the local funds in advance of final Congressional approval indicates both the need for the project and a unique commitment on the part of the community to complete this project. We are, therefore, ready and willing to undertake the South Fork Zumbro River Project.

The Appropriations Committee has approved continued engineering and design funds for this project in previous years, including FY 1985 and FY 1986. This funding will enable the Corps of Engineers to proceed promptly in FY 1987 to let bids on the first construction stage. This past support of the Senate Appropriations Committee is appreciated in Rochester. We again ask your support to approve this appropriation for the South Fork Zumbro River Project.

STATEMENT OF THE PLATTE RIVER WHOOPING CRANE MAINTENANCE TRUST, INC.

This letter is related to the provision of additional funds for the Prairie Bend Unit reclamation project in Central Nebraska. This project is unique in that one of its purposes, as stated in the legislation authorizing the feasibility study, is to provide benefits to migratory bird habitat in the Big Bend reach of the Platte River. The Platte River Trust actively supports the instream flow studies being conducted by the Bureau of Reclamation and the U.S. Fish and Wildlife Service which are a part of the feasibility study. The purpose of these studies is to determine the flow regime required to maintain the migratory bird habitat in the Big Bend reach of the Platte and to develop project operation criteria that will protect and enhance that regime. The instream flow studies underway are listed below. Also provided is a short description of the purpose of each study and the importance of each to the Prairie Bend Unit Feasibility Study. The purpose of this letter is to urge your committee to support the funding needed for these studies and your oversight to see that these tasks are accomplished as a part of the Prairie Bend Unit Study.

1. Verification of the hydraulic simulation model which is being used to predict the depth velocity and water filled channel widths associated with different instream flows. As part of the Prairie Bend wildlife plan the Bureau of Reclamation and the U.S. Fish and Wildlife Service have used a hydraulic simulation model to predict future habitat conditions. While this simulation model has been successfully used in other types of rivers and streams it's validity has not been demonstrated on a sandbed braided river such as the Platte. Before the outputs from this model can be accepted its application to the Platte River must be verified.

2. Development of a sediment transport model that can be used to predict the flows required to maintain the braided river channels characteristic of the Platte. The unique migratory bird habitat of the Platte is, in part, a result of the braided character of the river. Braided river channels are a function of the size of sediments found in the channel, the slope of the channel, and the discharge or flow of water. Generally speaking, braided river channels are dependent on periodic high and low flows which alternately scour and fill different portions of the active river bed. Reducing flows, such as will occur with the Prairie Bend Unit, may reduce or eliminate the scouring flows. If this were to occur the braided character of the channel would be lost and the river would flow in a narrower and deeper single meandering channel. If such a change were to occur, the migratory bird habitat of the Platte would be destroyed. A sediment transport model will help us determine if more water can be removed from the river without destroying the braided channel character needed to maintain migratory bird habitat.

3. Develop species habitat model for the Whooping Cranes, Sandhill Cranes, Interior Least Terns, Piping Plovers, Bald Eagles, Ducks and Geese. To determine the quantity and quality of migratory bird habitat associated with different river flows predicted by the hydraulic model described in item 1 it is necessary to construct models that describe the needs of individual species

in relation to instream flow habitat parameters. These parameters include channel widths, water depths, and velocities and characteristics of nesting and feeding sites. Without these models the work described in items 1 and 2 have very little value.

4. Develop a daily flow management model that can be used to predict the impacts of various proposed water projects (such as the Narrows project on the South Platte River) and the impacts of Prairie Bend Unit wildlife and irrigation alternatives. Management of the Platte River, its tributaries and the many existing and proposed water projects located on it is a very complex problem. To understand how various water diversion and instream flow maintenance scenarios may effect one another it is necessary to use a model. Such a model must be able to predict the daily flows in the reach of the river used by migratory birds. Preliminary reviews of different management alternatives can be examined using a monthly flow model. However, monthly flow models will always overstate the amount of water available for maintaining instream flows and overstate the amount available for diversion. Therefore a daily flow model must be used to fine tune the management scenarios developed with the monthly model. The area covered by the model is dependent on projects to be managed. If the Prairie Bend Unit is the only project being considered in the analysis a daily flow model that covers the area from Overton NE downstream to Duncan will be adequate. However, if the management scenario that describes future conditions includes any additional upstream development, such as Narrows, Corn Creek or Deer Creek, then the daily flow model must be extended upstream to at least Julesburg, Colorado and Lewellen, Nebraska. The logic of this is quite simple; if the river from Overton to Chapman is to be managed to meet a daily flow criteria, a daily flow model is needed to develop flow management criteria for the Prairie Bend Unit. If historic flows, on which the prediction of future conditions are based, are not predicted to change then a daily flow model for the Overton to Chapman reach is all that is needed. However, if the historic flows might be changed by new upstream developments then a daily flow model that predicts those changes is necessary because you cannot legitimately use monthly flow data as input to a daily flow model. Since the States of Colorado and Nebraska both plan a future with increased diversions, the future with Prairie Bend cannot be adequately predicted without a daily flow model. It is recognized that the accuracy of a daily flow model may be questioned. However, that is a matter of concern for both the diverter and the instream flow advocate. If we are unable to predict the availability of water for instream flows we will also be unable to predict the availability of water for irrigation. The present alternatives proposed for the Prairie Bend Unit may cost as much as $400,000,000. Before such a sum is committed the availability of water should be examined with the best tools available.

Thank you for considering this request. If additional information is needed please contact me.

SUBCOMMITTEE RECESS

Senator BURDICK. The hearing is recessed until 2 p.m., when the subcommittee will continue its public witness hearings.

[Whereupon, at 11:30 a.m., the subcommittee was recessed to reconvene at 2 p.m. the same day.]

(AFTERNOON SESSION, 2:04 P.M., WEDNESDAY, APRIL 16, 1986.)

NONDEPARTMENTAL WITNESSES

STATEMENT OF HON. ALAN CRANSTON, U.S. SENATOR FROM CALIFORNIA

OPENING REMARKS

Senator BURDICK [presiding]. I think for our first witness this afternoon will be the Honorable Alan Cranston who will be recognized for a short period of time.

Senator CRANSTON. Thank you very much, Mr. Chairman.

I will eliminate some of the material that will go into the record, so I won't take too much of the committee's time.

I appreciate the opportunity to appear before the subcommittee to testify in support of fiscal year 1987 funding for the Corps of Engineers and Bureau of Reclamation projects in California for fiscal year 1987. The Reagan administration is requesting $60,910,000 for the Bureau's Central Valley Project, general investigations, and loan programs in California. This is nearly 25 percent less than the $80 million-plus Congress appropriated for these programs in fiscal year 1986. Additionally, the Reagan administration is requesting $149,700,000 for the Corps' surveys, construction, and operation and maintenance work in California. This is about 9 percent more than the $137,800,000 appropriation for the Corps in California in fiscal year 1986.

I am very pleased to note that the budget includes funding for many important California projects, including $2 million to initiate construction of the Redbank and Fancher Creeks flood control projects in Fresno County; $500,000 for the Pajaro River, Uvas Carnadero levee construction project in Santa Clara County; $570,000 for the United Water Conservation District's Freeman diversion project in Ventura County; $350,000 for the off-stream storage special investigation in Tulare County; and $1,020,000 for the Port of Hueneme.

As in past years, the California Water Commission and the California Marine Affairs and Navigation Conference have carefully reviewed the President's budget and will be offering testimony today detailing the need for these and other projects. The water commission, in particular, has exercised great restraint and demonstrated a sensitivity to the Federal deficit situation by supporting the President's budget level. However, the commission will be pointing out a number of projects for which increases are needed if it is possible to find funds from other areas of the budget.

Specifically, the California Water Commission is requesting additional funds through reprogramming for the Caliente Creek investigation, Sacramento River flood control system interim, Santa Ana River final report, the Delta Water Management Program, and the San Joaquin Valley conveyance study. I support these recommendations for budget augmentation.

Mr. Chairman, I have touched on just a few of the important projects in California about which you will be hearing today. There are many other worthwhile projects. I urge the committee to give thorough consideration to all the requests Californians will be presenting today. Any assistance you can give will be greatly appreciated by the people of California. I have a longer statement I ask appear in the record.

I thank you very much.

Senator BURDICK. Thank you, Senator.

[The statement follows:]

STATEMENT OF SENATOR ALAN CRANSTON OF CALIFORNIA

Mr. Chairman, I'm pleased to appear before the Senate Appropriations Committee Energy and Water Subcommittee this afternoon to testify in support of FY 1987 funding for Corps of Engineers and Bureau of Reclamation programs in California.

For FY 1987 the Reagan Administration is requesting $60,910,000 for the Bureau's Central Valley Project, general investigations, and loan program in my state. This is nearly 25 percent less than the $80,215,052 Congress appropriated for these programs in FY 1986. Additionally, the Reagan Administration is requesting $149,700,000 for the Corps' surveys, construction, and operation and maintenance work in California. This is about 9 percent more than the $137,800,000 appropriation for the Corps in California in FY 1986.

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As in past years, the California Water Commission and the California Marine Affairs and Navigation Conference have carefully reviewed the President's budget and will be offering testimony today detailing the need for these and other projects. The Water Commission, in particular, has exercised great restraint and demonstrated a sensitivity to the federal deficit situation by supporting the President's budget level. However, the

Commission will be pointing out a number of projects for which increases are needed if it is possible to find funds from other areas of the budget.

Specifically, the California Water Commission is requesting additional funds through reprogramming for the Caliente Creek investigation, Sacramento River flood control system interim, Santa Ana River final report, the Delta Water Management Program, and the San Joaquin Valley Conveyance study. I support these recommendations for budget augmentation.

Caliente Creek (Corps investigation)
The President's budget includes $120,000 to continue the Corps flood control feasibility study for Caliente Creek. The Water Commission and the Kern County Water Agency are requesting an additional $80,000 -- or an appropriation of $200,000 -- to complete the study. Moreover, the $200,000 amount is consistent with the cost-sharing agreement that has been implemented between the Water Agency and the Corps calling for equal contributions from both agencies each year. Local interests are prepared to provide $200,000 next year. If less than $200,000 in federal funds is available, the study will not be completed on schedule and costs to both the federal government and local interests could increase. In spite of the fact the area escaped flooding this year, the Caliente flood problem is serious, with past damages totalling more than $36 million. I hope the Committee will be able to accommodate this meritorious request for increased funding.

Sacramento River flood control interim (Corps investigation)
In February of this year California experienced one of its most serious storms in history. Record releases had to be made from Oroville and Folsom Reservoirs and the American and Sacramento Rivers reached their highest levels since the Sacramento levee

system was constructed. Californians experienced over $400 million in flood damages. While the levee system also protected over $1 billion in property, it is now prudent to reassess the overall Sacramento River flood control system. Citing an increasing frequency of problems such as levee subsidence and sedimentation in flood channels, the State Reclamation Board is requesting $400,000 in FY 1987 for the Corps to initiate a reconnaissance level investigation to assess the long-term integrity of the Sacramento River flood control system. The Water Commission also supports the appropriation of $400,000 for this work. The request has my wholehearted support.

San Joaquin Valley Conveyance (Bureau study)

This year the Bureau is to complete the feasibility study for the San Joaquin Valley conveyance system. A status report is to be issued at the end of this month with the final report expected this fall. It's my understanding the report will show a favorable cost benefit ratio for the Mid Valley Project. Funding in FY 1987 for the Off Stream Storage study will provide for the evaluation of various alternative locations for storage of Mid Valley Project/San Joaquin water. But no funds are provided in the President's budget for continuation of the San Joaquin Valley Conveyance study. To provide continuity, develop the best conveyance arrangement, coordinate with the Off Stream Storage study, the Mid Valley Water Authority is requesting $500,000 for the Bureau to undertake advanced planning and preliminary engineering work on the conveyance system. Again, the Water Commission is asking for funding if it can be made available through reprogramming. I ask for the Committee's favorable consideration of this request.

Delta Water Management Program (Bureau study)

The Water Commission is requesting an appropriation of $400,000 for the Bureau to initiate studies for a Delta Water Management

Program. This special study would develop programs to implement the Coordinated Operation Agreement between the State of California and the federal government and the Suisun Marsh Agreement, to resolve problems of water quality and water levels in the South Delta, and to undertake Delta environmental studies. All programs would be cost shared with state and local interests. If the federal government is to cooperate with maintaining water quality as provided in the Coordinated Operation Agreement, it's vitally important that the Bureau participate in these ongoing programs in the Delta on a continuing basis. Thus, I hope the Committee will see fit to provide $400,000 for this purpose.

Port San Luis (Corps study)

Port San Luis, a commercial harbor important to commercial fishing and offshore oil development, has no southerly protection from winter storms. Past storms have caused $30 million in damages. For FY 1985 Congress appropriated $600,000 for Port San Luis breakwater studies. To date, only $150,000 has been expended on preliminary studies to address this problem. It's my understanding that a feasibility report issued earlier this month shows a favorable cost/benefit ratio. However, another $500,000 is needed in FY 1987 to enable the Corps to complete the design work for the Port San Luis breakwater. I urge you to give this request of the Port San Luis Harbor District and the California Marine Affairs and Navigation Conference your careful consideration.

Mr. Chairman, I have touched on just a few of the important projects in California about which you will be hearing today. There are many other worthwhile projects. I urge the Committee to give thorough consideration to all the requests Californians will be presenting today. Any assistance you can give will be greatly appreciated by the people of California. Thank you.

PREPARED STATEMENT OF SENATOR WILSON

Senator BURDICK. I will make part of the record at this point the detailed statement submitted by Senator Wilson.

[The statement follows:]

STATEMENT OF SENATOR PETE WILSON OF CALIFORNIA

MR. CHAIRMAN, I APPRECIATE THE OPPORTUNITY TO TESTIFY BEFORE YOUR COMMITTEE AS YOU BEGIN YOUR HEARINGS ON FISCAL YEAR 1987 PROPOSED BUDGET ESTIMATES FOR CORPS OF ENGINEERS AND BUREAU OF RECLAMATION PROGRAMS IN THE STATE OF CALIFORNIA.

THIS AFTERNOON YOU WILL HEAR FROM A NUMBER OF CALIFORNIANS REGARDING WATER DEVELOPMENT ACTIVITIES WHICH SERVE A VARIETY OF BENEFICIAL PURPOSES FOR MY STATE. THERE ARE PROJECTS WHICH OFFER FLOOD PROTECTION, CONSERVE WATER AND ASSIST IN DEVELOPING MUNICIPAL AND INDUSTRIAL WATER SUPPLIES, HELP IRRIGATE AGRICULTURAL LANDS, PROVIDE HYDROELECTRIC POWER AND BENEFIT FISH AND WILDLIFE MANAGEMENT.

THE COMMITTEE WILL BE RECEIVING TESTIMONY TODAY FROM THE CALIFORNIA WATER COMMISSION AND THE CALIFORNIA MARINE AFFAIRS AND NAVIGATION CONFERENCE (CMANC). THESE ORGANIZATIONS HAVE EVALUATED THE PRESIDENT'S BUDGET RECOMMENDATIONS AND WILL OFFER CONSTRUCTIVE TESTIMONY WHICH WILL ENABLE CALIFORNIA TO MEET ITS GREAT WATER DEVELOPMENT NEEDS.

I WANT TO COMMEND AND THANK THE WATER COMMISSION AND CMANC FOR THEIR EFFORTS TO MAKE FISCALLY RESPONSIBLE REQUESTS. PARTICULARLY THE WATER COMMISSION, WHOSE TOTAL REQUESTS ARE WITHIN THE BUDGET PROPOSED BY THE PRESIDENT. THE RECOMMENDATIONS OF THESE ORGANIZATIONS ARE IMPORTANT AND I BELIEVE THEY DO AN EXCELLENT JOB OF REPRESENTING THEIR RESPECTIVE CONSTITUENCIES.

MR. CHAIRMAN, WHILE CALIFORNIA HAS EXCEPTIONAL NEEDS ARISING FROM ITS POSITION AS THE NATION'S MOST POPULOUS STATE, CALIFORNIA STATE GOVERNMENT UNDERSTANDS THE NEED FOR DEFICIT-REDUCTION AND REALIZES THAT REDUCTION EFFORTS MUST TOUCH ALL AREAS OF THE BUDGET. THUS, I AM NOT ADVOCATING AN INCREASE IN FEDERAL

SPENDING ABOVE THE PRESIDENT'S BUDGET REQUEST FOR WATER RESOURCE NEEDS IN MY STATE; HOWEVER, I AM ADVOCATING THE NEED FOR NEW APPROACHES TO WATER DEVELOPMENT SO THAT CALIFORNIA'S REAL WATER DEVELOPMENT NEEDS ARE ADDRESSED IN AN ORDERLY AND COMPREHENSIVE

UNFORTUNATELY, AGAIN THIS YEAR, WE HAVE ALL BEEN REMINDED OF THE NEED FOR EFFICIENT FLOOD CONTROL AND PREVENTIVE EROSION MEASURES. IN FEBRUARY, NORTHERN CALIFORNIA WAS DEVASTATED BY SEVERE FLOODING. MORE THAN 40 OF CALIFORNIA'S 58 COUNTIES WERE DECLARED FEDERAL DISASTER AREAS BY THE PRESIDENT AND THE TOTAL PUBLIC/PRIVATE DAMAGE IS PROJECTED TO EXCEED $400 MILLION. THE DEVASTATION BROUGHT BY THESE FLOODS HIGHLIGHTS THE CONTINUING NEED FOR ADEQUATE FLOOD PROTECTION. IT IS CLEAR THAT FUNDING PROJECTS TO PREVENT FLOODING IS A CHEAPER INVESTMENT THAN SPENDING MILLIONS ON REPAIR WORK.

WITH THESE THOUGHTS IN MIND, I WANT TO DRAW THE COMMITTEE ATTENTION TO THE FOLLOWING FLOOD CONTROL PROJECTS WHICH HAVE BEEN INCLUDED IN THE PRESIDENT'S BUDGET:

PROJECT	**PRESIDENT'S REQUEST**
SURVEY	
GUADALUPE RIVER	$750,000
LOS ANGELES COUNTY DRAINAGE AREA	$1,150,000
SACRAMENTO-SAN JOAQUIN DELTA	$250,000
SAN FRANCISCO BAY SHORELINE	$840,000
SAN JOAQUIN RIVER BASIN -- KAWEAH	$100,000
SAN JOAQUIN RIVER BASIN -- TULE	$100,000
SANTA ANA RIVER BASIN & ORANGE CO.	$600,000

PROJECT	PRESIDENT'S REQUEST
CONTINUED PLANNING AND ENGINEERING	
CACHE CREEK	$500,000
OAKLAND INNER HARBOR	$415,000
SANTA ANA RIVER MAINSTEM	$3,500,000
ADVANCED AND SPECIAL STUDY	
COAST OF CALIFORNIA STORM & TIDAL	$1,000,000
CONSTRUCTION -- GENERAL	
LOWER SAN JOAQUIN RIVER VALLEY	$1,500,000
NEW MELONES LAKE	$1,900,000
PAJARO RIVER	$500,000
PORT HUENEME	$1,020,000
REDBANK AND FANCHER CREEKS	$2,000,000
SAN FRANCISCO TO STOCKTON	$3,900,000
OPERATION AND MAINTENANCE	
LOS ANGELES/LONG BEACH HARBORS	$1,457,000
MARINA DEL REY	$1,175,000
OCEANSIDE HARBOR	$480,000
OCEANSIDE SAND BY-PASS	$1,918,000
SANTA BARBARA HARBOR	$800,000

SEVERAL BUREAU OF RECLAMATION PROJECTS PLAY A CRUCIAL ROLE IN ENABLING CALIFORNIA TO MEET ITS NEW WATER DEVELOPMENT NEED AND PROVIDE THE NECESSARY CONVEYANCE FACILITIES TO DELIVER IT. THEREFORE, I AM SUPPORTING THE PRESIDENT'S RECOMMENDATIONS FOR:

PROJECT	PRESIDENT'S REQUEST
BUREAU OF RECLAMATION	
SACRAMENTO RIVER DIVERSION	$1,060,000
AUBURN-FOLSOM SOUTH UNIT	$1,000,000
SAN LUIS UNIT	$12,172,000
SAN FELIPE DIVISION	$10,642,000

THESE WATER DEVELOPMENT REQUESTS ARE SIGNIFICANT TO CALIFORNIA AGRICULTURE AND THEREFORE GENERATE MILLIONS OF TAX DOLLARS WHICH FLOW INTO THE FEDERAL TREASURY. BETWEEN A QUARTER AND A HALF OF CALIFORNIA'S ANNUAL FOUR BILLION DOLLAR AGRICULTURE EXPORTS ARE ATTRIBUTABLE TO FEDERAL WATER PROJECTS. CONSIDERING THAT WATER USERS ALSO DIRECTLY REPAY A SHARE OF PROJECT COSTS, IT IS CLEAR THAT THE RETURNS THESE PROJECTS GENERATE FOR THE PUBLIC OUTWEIGH THEIR COSTS.

THE PRESIDENT'S BUDGET INCLUDES FUNDING FOR A NUMBER OF WORTHY PROJECTS IN THE BUREAU OF RECLAMATION LOAN PROGRAM. THIS PROGRAM CONTINUES TO BE QUITE SUCCESSFUL AND I AM HOPEFUL THAT LEGISLATION TO REAUTHORIZE THE SMALL RECLAMATION PROJECTS ACT WILL BE PASSED BY CONGRESS THIS YEAR. I SUPPORT REQUESTS FOR:

PROJECT	PRESIDENT'S REQUEST
ELSINORE VALLEY MWD	$1,000,000
OAKDALE IRRIGATION	$4,100,000
UNITED WATER CONSERVATION	$570,000
SANTA ANA WATERSHED	$8,714,000

MR. CHAIRMAN, WE BOTH KNOW THE CRUCIAL ROLE OPERATION AND MAINTENANCE ACTIVITIES PLAY IN SUCCESSFUL WATER DEVELOPMENT. THUS, MANY SITES MAY NEED DREDGING AND OTHER MAINTENANCE DURING FY 87 TO INSURE MAXIMUM PUBLIC BENEFITS FOR NAVIGATION, HYDROPOWER AND FLOOD CONTROL.

HOWEVER, BECAUSE SPECIFIC ALLOCATIONS OFTEN IMPEDE THE CORPS' ABILITY TO ADJUST TO CONTINUOUSLY CHANGING NEEDS, I WILL NOT MAKE SPECIFIC REQUESTS AT THIS TIME. RATHER, IT IS MY HOPE THAT THE CORPS, AS IT HAS IN THE PAST, WILL ADDRESS THESE CRITICAL NEEDS AS CIRCUMSTANCES MERIT ACTION.

ALTHOUGH I AM ASKING THAT THE TOTAL APPROPRIATION FOR CALIFORNIA NOT EXCEED THE PRESIDENT'S REQUEST, I RECOGNIZE THAT SOME PROJECTS HAVE BEEN EXCLUDED FROM THE BUDGET WHICH ARE ESSENTIAL AND THAT SOME MAY NEED MORE FUNDS THAN HAVE BEEN ALLOCATED IN THE PROPOSED BUDGET. AMONG THE PROJECTS IN THIS CATEGORY ARE:

PROJECT	REQUEST
NORTHERN CALIFORNIA STREAMS -- [illegible]	$400,000

IN LIGHT OF THE DEVASTATING FLOODS IN THIS REGION, THIS APPROPRIATION WILL ALLOW THE CORPS TO INITIATE A RECONNAISSANCE LEVEL INVESTIGATION TO ASSESS THE LONG TERM INTEGRITY OF THE SACRAMENTO RIVER FLOOD CONTROL SYSTEM.

DELTA WATER MANAGEMENT PROGRAM	$400,000

WILL ENABLE THE BUREAU OF RECLAMATION TO PARTICIPATE IN THE ESSENTIAL PROGRAMS IN THE SACRAMENTO-SAN JOAQUIN DELTA.

SAN JOAQUIN VALLEY CONVEYANCE	$500,000

AS THE FEASIBILITY ASSESSMENTS ARE COMPLETED, THESE FUNDS WILL ASSURE ORDERLY DEVELOPMENT OF MID-VALLEY CANAL PROJECT PLANS.

IN ADDITION TO THESE PROJECTS, REQUESTS ARE MADE ABOVE THE PRESIDENT'S PROPOSALS THAT WILL ALLOW THE CORPS OF ENGINEERS TO COMPLETE THE CALIENTE CREEK AND SANTA ANA RIVER AND ORANGE COUNTY STUDIES. THE PORT OF SAN LUIS WAS APPROPRIATED FUNDS LAST YEAR WHICH THE CORPS HAS YET TO RELEASE. IT IS MY HOPE THAT YOU WILL GIVE CONSIDERATION TO ADDITIONAL FUNDS IF PORT SAN LUIS DOES NOT OBTAIN THE FUNDS THE CONFERENCE APPROVED LAST YEAR. FINALLY, IN RECENT YEARS, THE PRESIDENT'S BUDGET HAS INCLUDED FUNDS FOR THE SAN LUIS REY RIVER FLOOD CONTROL PROJECT. ALTHOUGH NO FUNDS ARE INCLUDED IN THE FY87 BUDGET, IT IS MY HOPE THAT THE COMMITTEE WILL ADDRESS THIS FLOOD CONTROL NEED.

AGAIN MY INTENT IS NOT TO EXCEED THE PRESIDENT'S BUDGET BUT THAT AS CHANGES IN PROJECTS OCCUR WHICH WILL "FREE UP" FUNDS, THE COMMITTEE WILL TRY TO ADDRESS THESE PROJECTS WITHIN THE PRESIDENT'S BUDGET. IT IS NOT MY INTENT FOR ANY ONE PROJECT TO BE SINGLED OUT TO MAKE ROOM FOR THESE ADDITIONAL REQUESTS AS THERE ARE MANY WORTHY PROJECTS WHICH I HAVE NOT DISCUSSED TODAY. HOWEVER, IT IS MY HOPE THAT THROUGHOUT THIS OVERALL BUDGET, THERE MAY BE ROOM TO MAKE MINOR CHANGES; CHANGES THAT WOULD NOT SIGNIFICANTLY IMPEDE ANY ONE PROJECT BUT WOULD ALLOW THE TIMELY PROGRESSION OF THE ABOVE MENTIONED PROJECTS.

MR. CHAIRMAN, I CERTAINLY UNDERSTAND THE DIFFICULTY OF YOUR TASK BECAUSE OF THE PRESENT BUDGET CONSTRAINTS. THE FAIRNESS OF YOUR COMMITTEE IN MATTERS OF THIS KIND HAS BEEN EVIDENT IN THE PAST, AND I KNOW THAT YOU WILL GIVE THESE RECOMMENDATIONS EVERY CONSIDERATION. I APPRECIATE YOUR ASSISTANCE TODAY AND WANT TO COMMEND YOU FOR THE EXCELLENT ASSISTANCE YOUR STAFF HAS PROVIDED MY OFFICE. THEIR SKILLS AS WELL AS THEIR PATIENCE CONTINUE TO BE VERY MUCH APPRECIATED.

AGAIN MR. CHAIRMAN, YOUR ASSISTANCE WITH THESE REQUESTS IS VERY MUCH APPRECIATED.

PORTS OF LOS ANGELES AND LONG BEACH

STATEMENT OF HON. GLENN M. ANDERSON, U.S. REPRESENTATIVE FROM CALIFORNIA

Senator BURDICK. Our next witness will be the Honorable Glenn M. Anderson.

You may proceed.

Mr. ANDERSON. Thank you, Mr. Chairman, members of the committee.

It is a privilege to again appear before this distinguished subcommittee and submit recommendations for funding of certain water-related public works projects that are vital to my district and the State of California. At the outset, I want to join you in welcoming our many friends who have again made the journey eastward with the California Marine and Navigation Conference to afford us the benefit of their expert views on many pertinent topics.

I have with me at the present time from the Port of Long Beach, Dan Allen and Travis Montgomery; from the Port of Los Angeles, City Councilman, John Ferraro; and the chairman of the Port Commission, Joe Zinovich,and Mr. Ed Gorman, an official with the port.

My purpose in participating today is on behalf of the Ports of Los Angeles and Long Beach, which is recognized throughout the international shipping community as one of the premier harbor facilities in the world. Together, the boards of Los Angeles and Long Beach generate more than $10 billion a year in economic activity throughout southern California and about 300,000 jobs are directly or indirectly related to the two ports. And, as some already know, our Federal Treasury is probably the biggest single winner in the Los Angeles/Long Beach activities through the increased Customs Service collections. In fact, during this past fiscal year alone, 1985, Customs collected at the Ports of Long Angeles and Long Beach actually $2 billion. It was a record $1,986,000,000. That is pretty close to $2 billion. This year we can expect this figure to easily surpass $2 billion. When you realize that total customs collected in the United States in all the ports from New York, New Jersey to Honolulu, Seattle, everywhere, are only $10 billion a year and roughly $2 billion of that are collected in the two ports I am representing, that is almost $1 out of every $4 or $5 is collected in those ports; you get an idea of the interest that we have here.

In cooperation with the U.S. Army Corps of Engineers, the Ports of Los Angeles and Long Beach have developed a long-range master plan called the 2020 Plan. It is to promote and encourage the efficient, economic, and logical development of the harbors. This important study has already demonstrated the need for new navigation channels and 2,600 acres of new landfill development. With the plan, annual customs collections will not be $2 billion a year, they will grow to $6.2 billion annually by the year 1992. Without this development that we are talking about, these receipts will top out at $2.2 billion annually beginning in 2992. So it is to the Federal Government's interest to get that additional over $4 billion a year into the Federal Treasury that to let this program go on, and the ports and the Corps wish to continue the study by doing a feasibility report on the project. It is requested that $500,000 be appropriated for this effort.

I would like to turn my attention to the Los Angeles/Long Beach hydraulic model which is operated and maintained by the Corps of Engineers at the U.S. Army Waterways Experiment Station in Vicksburg, MS. Since 1982, the Corps has been in the process of compiling needed data on tital circulation, of wave energy and ship motion in the San Pedro Bay area. Because the administration's fiscal year 1987 budget request includes only $140,000 to maintain the model, needed testing could not occur. I ask that you appropriate an additional $1,160,000—for a total of $1,300,000—so that this program will be allowed to continue. It is my understanding that the Corps of Engineers has the capability to continue this program, if funded.

Finally, I fully support the joint recommendations of C-MANC, the Port of Long Beach and the city of Long Beach concerning the need for annual maintenance dredging at the mouth of the Los Angeles River. Flood-deposited silt in this area continues to be a serious problem and hinders the use of navigable waters for commercial boating activities. An appropriation of $1.2 million is needed to perform the necessary maintenance dredging at the mouth of the river and the basins and channel seaward to a depth of 30 feet mean low water. The dredged material should be used for filling the scoured edges of the river channel, replacement of the sand on the beaches in Long Beach south of the river, or for creation of landfills in adjacent areas.

In totaling up the figures, Mr. Chairman, I am requesting $3 million for three projects at the Ports of Los Angeles and Long Beach during fiscal year 1987. As I have already said, customs collections will total over $2 billion a year during this same period at these ports.

Should these three items be fully funded, the Treasury will gain $670 in customs revenues to every $1 spent in Corps of Engineers operating funds, which, of course, is not too bad an investment—670 to 1 is very good. You may say, "Well, how do you know that? That is a guess."

Well, it is not a guess. These figures are from the U.S. Army Corps of Engineers' study that was conducted in that area a few years ago when they made the study using 1976 figures, and they predicted that our Ports of Los Angeles-Long Beach would grow by the year 2000 300 percent.

That was kind of a shock to many of the people out there, and so we wanted to verify that, and we had another study made by a private group, and they used 1981 figures which, again, we have already grown considerably from 1976 to 1981, but they said by the year 2020, we would grow 350 percent.

So we have a tremendous opportunity there to make money for the Federal Government and at the same time do a good job for the area.

I just want to bring that point to you, that we are coming here offering and showing a way that we are not going to take money away, we are going to bring money back at the rate of $670 for every $1 we get in which, as I said, is a pretty good investment.

I want to thank the subcommittee for the opportunity to testify as well as your continued support and cooperation and thank you for what you have given us in the past. Thank you, Mr. Chairman.

Senator BURDICK. Thank you very much, Congressman.

STATEMENT OF HON. NORMAN D. SHUMWAY, U.S. REPRESENTATIVE FROM CALIFORNIA

Senator BURDICK. The next witness will be the honorable Norman D. Shumway, Congressman from the State of California.

Mr. SHUMWAY. Thank you, Mr. Chairman.

I sincerely appreciate your time and interest in allowing us to present our request to the subcommittee and certainly appreciate the role that you have played in the past in terms of the Federal partnership with the local and State interests in California in developing water throughout our State. That water and water policy, of course, is essential to California's success and its growth and prosperity. We are delighted to be here today to present some facts with reference to that.

I represent a district in the northern part of the State which includes much of the San Joaquin Central Valley, much of the Mother Lode Country, and many of the Sierra-Nevada Mountains. Much of the Central Valley project originates within my district, and much of the water which it supplies is used within the boundaries of my district. I have in the audience representatives from my part of California, representatives from San Joaquin County, from the city of Stockton, and from the Port of Stockton, and they will all be testifying later this afternoon on specifics of their requests.

Mr. Chairman, I would like to just take a moment to describe two or three key projects falling within the jurisdiction of the Corps of Engineers as well as the Bureau of Reclamation. One is the completion of New Melones Lake. As the chairman probably knows, this is a Federal project, part of the Central Valley project. The dam is now completed; the lake is in place; but there needs to be the carry-through to complete the recreational and wildlife facilities that were envisioned as part of that overall project. There is $1.9 million requested for that purpose.

SAN FRANCISCO BAY TO STOCKTON SHIP CHANNEL, CALIFORNIA

Second, Mr. Chairman, we have now been working for some years to complete the ship channel, a deepening project for that channel from the Port of Stockton to the San Francisco Bay. That project is now in its final stage and the deepening will be to 35 feet and to complete that project. We are asking for $3.9 million, and in that regard, I am pleased to join the President as well as the California Water Commission in seeking that sum of money.

The San Joaquin delta is in my district, and as always, there needs to be studies and surveys and a great deal of effort to perform in the delta in managing the fragile islands there and preserving the waterways. In that regard, we are making requests of both the Corps and the Bureau for their role in that water management.

AUBURN-FOLSOM SOUTH UNIT

Under the heading of the Bureau of Reclamation, Mr. Chairman, I would like to just mention one project. That is the Auburn-Folsom south unit. This is an authorized project of the Federal Government. We intended many years ago to build a dam on the American River at that site, and indeed, in preparation for that construction, a coffer dam was built, foundations were poured, roads were made, and so forth.

Because of an earthquake scare and the need to redesign the dam, construction has now been held in abeyance for several years, and we, nevertheless, have managed to maintain the Federal interest there. That, no doubt, will be provided for in funding for this year, but as the chairman well knows, we had some very heavy rains in California several weeks ago, and because of that, there was an unprecedented flow in the American that washed out the coffer dam and created considerable damage which the Bureau must repair during this fiscal year. The total extent of that damage and hence, the cost of the repair, is not now known but, whatever sums may be necessary, we would certainly request because it is a Federal responsibility and one that we need to attend to.

All of this, I think, Mr. Chairman, points up, again, the need for us to get on with the business of building the Auburn Dam, and I would hope that the matter will shortly be before the Senate so that in coming years, I will be here asking for an appropriation for that construction to get underway again so we might complete that Federal project.

These are just a few of the worthy projects that are in my testimony, Mr. Chairman. I would submit the entire testimony for the record and ask for the committee's favorable consideration.

Senator BURDICK. Your entire statement will be included in the record, and I want to thank you, Congressman.

[The statement follows:]

Statement of Representative Norman D. Shumway of California

Mr. Chairman and members of the Subcommittee, I am pleased to have this opportunity to come before you today to testify on behalf of those water-related projects which are of extreme importance to California's 14th Congressional District, which I represent, and to the State of California in general.

As the members of the Subcommittee well know, progressive yet responsible water development has, in many ways, allowed for California's success, growth, and prosperity. In an effort to continue these successful policies, local, state, and Federal governments, as well as the various non-governmental beneficiaries of water development, must remain active in moving forward as partners in the construction and maintenance of those water storage, conveyance, and flood control systems which are truly needed. I would like to commend this Committee for the valuable role it plays in advancing these goals.

Mr. Chairman, the 14th Congressional District of California includes portions of our State's Central Valley, Mother Lode Country, and Sierra-Nevada Mountains. A substantial amount of our State's Federally-distributed Central Valley Project water-yield both originates and is delivered within this diverse region. As a result, many of the projects which I am supporting today not only affect my District but also many important interests throughout the entire State.

As well, I would like to mention that the 14th District includes an impressive agricultural industry which is essential to local economies and consumers nationwide. Needless to say, this agricultural industry is dependent upon an adequate supply of water, and correspondingly adequate water facilities, for its livelihood.

In coming before you today, I am pleased to support, in large part, the President's FY '87 budget requests for the water projects contained within the Army Corps of Engineers and the Bureau of Reclamation. The proposals which I am advocating are both responsible and essential for the needed water development within my Congressional District for the Fiscal Year 1987. They are:

ARMY CORPS OF ENGINEERS

1. New Melones Lake -- $1.9 million

With this appropriation, the Corps will be able to continue with the construction of recreational and wildlife facilities needed to maximize this project's capabilities. I, therefore, support the President's FY '87 request for this program.

2. San Francisco Bay to Stockton Ship Channel Project -- $3.9 million

The FY '87 budget request for this particular project includes $1 million in funding to complete the deepening of the Stockton Channel to 35 feet. In doing so, the Port of Stockton will be able to handle much larger ships with over twice the carrying capacity than they are able to handle now. This project will eliminate the necessity for "topping off" facilities at San Francisco and other ports.

The funding proposal also includes $260,000 to initiate and complete the Donlon Fish and Wildlife facilities; $400,000 to initiate wavewash bank protection; $380,000 for Roberts' Island Recreational facilities; $1.47 million for engineering and design; and $390,000 for supervision and maintenance. I, therefore, join the President, the California Water Commission, and the City of Stockton in requesting $3.9 million for FY '87 to enable expedient completion of this needed project.

3. Aquatic Plant Control --

This program researches and helps control the growth and spread of the water hyacinth -- a plant which has, in the past, literally immobilized vast reaches of the San Joaquin/Sacramento Delta. Substantial success in controlling this waterway blockage has been realized through this program. I understand that no single line item for the Sacramento/San Joaquin Delta is included under the Corps' FY '87 budget for Aquatic Plant Control; instead, there is a single $8 million request for all of the Corps' work, nationwide, in this area. I, therefore, would request that whatever monies are needed to continue this program in the Delta be made available out of this more general line item request.

4. Sacramento/San Joaquin Delta Survey Study -- $250,000

This flood damage prevention study will examine the needs and federal interest in providing improvements for flood control, recreation, fish and wildlife protection, and water quality as related to salinity intrusion due to levee failure and other water management problems in the Delta.

As you know, Mr. Chairman, the Delta is a fragile and critical water system made up of 11,000 miles of leveed water channels and extremely fertile islands. Since 1900 there have been over 100 levee failures, with 40 occurring since 1930. As the Federal, State and local governments continue to look at plans which will increase the usage of these waterways as a route to transport water, no doubt the need for greater protection for this area will increase. Moreover, the recent flooding disaster in the area illustrated dramatically this need for greater protection. I very strongly support an FY '87 appropriation request, consistent with the Administration, of $250,000.

5. Lower San Joaquin River & Tributaries Clearing & Snagging -- $1.5 million

This important project consists of $500,000 to complete the clearing and snagging on the 150 miles of the San Joaquin River between Stockton and the Friant Dam; $140,000 for engineering and design; and $70,000 for supervision and administration. This $1.5 million request is consistent with the Administration's FY '87 request.

6. Operation and Maintenance

I support the FY '87 Army Corps of Engineers budget request made by the President for operation and maintenance for the following list of projects:

A. Farmington Dam
B. New Hogan Lake
C. New Melones Lake
D. San Francisco Bay - Delta Model Structure
E. San Joaquin River

BUREAU OF RECLAMATION

1. Auburn-Folsom South Unit --

The Auburn Dam request made by the President for this year is the projected dollar amount required to maintain current Bureau operations in the Auburn area. However, this request was calculated prior to the recent flooding disaster which wiped out the existing coffer dam and Highway 49 at the Auburn damsite. The damage, and cost to repair it, is still being estimated. I, therefore, request the appropriation of whatever sums are determined to be necessary to restore the coffer dam to the extent needed, to suitably restore Highway 49, and take care of the other problems which resulted from the recent flood.

As you know, the construction of this project has been delayed over the years for various reasons. As a consequence of these delays, the estimated cost of construction for the project has exceeded the limitation set in the original 1965 authorization. To remedy this situation, I have introduced legislation, H.R. 1226, which would authorize the Secretary of the Interior to enter into cost sharing agreements with non-Federal entities to make up for this funding shortfall, and also to reauthorize the project at current cost estimates.

I would like to point out that H.R. 1226 addresses and, in my mind, basically resolves the question of completion and operation of the Auburn Dam Project on the Lower American River segment. This legislation guarantees minimum flow levels which will allow for present day recreational and fisheries capacities in the river to be maintained forever. Until this legislation is

ENACTED, HOWEVER, THE PRESIDENT HAS REQUESTED MONIES TO KEEP THE AUBURN DAM FACILITIES OPEN AND THE VARIOUS STUDIES ON SCHEDULE. AGAIN, I ADDITIONALLY AND STRONGLY REQUEST WHATEVER FUNDING IS NEEDED TO ADEQUATELY RESTORE THE AREA.

2. DELTA SUPPORT STUDIES -- $1,008,000

I AM PLEASED TO BE ABLE TO SUPPORT THE PRESIDENT'S REQUEST OF SLIGHTLY MORE THAN $1 MILLION FOR THIS PROJECT. THIS FUNDING WILL ALLOW FOR NEEDED STUDIES TO EXAMINE THE SACRAMENTO/SAN JOAQUIN DELTA, INCLUDING THE SUISUN MARSH.

3. DELTA WATER MANAGEMENT PROGRAM -- $400,000

THIS $400,000 REQUEST, CONSISTENT WITH THE CALIFORNIA WATER COMMISSION'S REQUEST, IS FOR THE BUREAU TO REPROGRAM EXISTING FUNDS SO THAT THEY MIGHT PARTICIPATE AS PARTNERS WITH THE ARMY CORPS AND THE STATE DEPARTMENT OF WATER RESOURCES IN THE SACRAMENTO/SAN JOAQUIN DELTA SURVEY STUDIES. THESE STUDIES, AS EXPLAINED ABOVE IN THE ARMY CORPS SECTION, EXAMINE THE FEDERAL NEEDS AND INTEREST IN PROVIDING IMPROVEMENTS FOR FLOOD CONTROL, RECREATION, FISH AND WILDLIFE, AND WATER QUALITY AS RELATED TO SALINITY INTRUSION DUE TO LEVEE FAILURES AND OTHER WATER MANAGEMENT PROBLEMS IN THE DELTA.

CALIFORNIA NAVIGATION PROJECTS

STATEMENT OF ROBERT H. LANGNER, PRESIDENT, CALIFORNIA MARINE AFFAIRS AND NAVIGATION CONFERENCE

Senator BURDICK. Now, we will recognize Mr. Robert Langner, the president of the California Marine Affairs and Navigation Conference.

You may proceed.

Mr. LANGNER. Thank you, Mr. Chairman.

It is a pleasure to be here for the 28th year before this committee and to present the recommendations of our group; a number of them are here and will be submitting statements to the record.

We will try to minimize our testimony and make it very brief, Mr. Chairman. We have included a list of recommendations which have had close scrutiny, minimize the President's budget and minimize the request of that and ask only for your consideration of those minority requests for the increases over the proposed budget.

Also, we echo the sentiments of the Congressmen here, in that the action by the Senate recently in passing an omnibus authorization bill which allows the backup authorizations to proceed, so we will have some new projects started after about a decade of waiting.

Back in 1959, we talked about the dynamics of the West. In my prepared statement, Mr. Chairman, we have summarized some of these dynamics. I won't go into them now, other than to say that they continue our population, our demographics. For example, in 1985, despite export problems which the nation is suffering, the balance of payment problems, revenue per ton of cargoes from California ports increased 6.5 percent. This is, indeed, a dynamic portion of the country, which, as you know, has major commitments in the Pacific Basin, and is also very, very critically important to the security of the Nation—repositioning of naval units, and supply and the logistical support California provides. These are some of the reasons why maintainance and improvement of our navigation system is so vital.

The traditional Federal role should not be suddenly changed. We think the proposals before the Congress now are moderate, and we hope that they are passed.

The investment that has been made in these kinds of projects, through the wisdom of you and your predecessors here on these committees, have assured that almost all the projects have fully met or exceeded their expectations in terms of cost effectiveness.

We hope this record of achievement and contribution to the Nation will be continued by Congress acting favorably on this request.

[The statement follows:]

STATEMENT OF THE CALIFORNIA MARINE AFFAIRS AND NAVIGATION CONFERENCE

It is again a pleasure -- and I consider myself fortunate -- to be able to appear before you for the 28th consecutive year on behalf of the funding of California navigation, beach erosion and related public works projects. With me today is the Chairman of the California Marine Affairs and Navigation Conference, Officers and Directors of the organization as well as other project sponsors and supporters, to present oral and written testimony or to be introduced.

Consistent with your request for brevity, C-MANC's presentation will seek to minimize hearing time as it has in the past. To this end, we ask that written statements submitted be included as part of the record of these proceedings. Spoken testimony will be at most limited to a brief summary of such statements -- with the knowledge that this will not lessen the weight and consideration you give the written support and endorsements submitted.

Also as part of my statement, and for the record, is C-MANC's schedule of recommendations for FY 87 project funding, carefully considered and approved by our membership. In taking such action, we are fully aware and appreciative of the need for restraint in the appropriations process, to reverse the soaring Federal budgetary deficit. To this end, each project endorsed was scrutinized more closely than ever and our reduced funding recommendations this year reflect the realities you face.

First, C-MANC supports fully the President's budget proposals, 2/3rds of which are endorsed without requests for funding in excess of the Administration's requests. Of the remaining 1/3rd, the merits of the additional funding sought will be expanded upon by C-MANC representatives here today, and in statements subsequently submitted.

Action by the Senate and hoped-for early approval by the Congress of legislation to break the log jam of more than a decade of minimal authorizations for new projects is noted with enthusiasm by C-MANC. While details remain to be resolved -- including some of significance -- we join in the relief that this long stasis will soon be relieved on the basis of hard-to-achieve compromises nearing agreement.

In my first statement to this body in 1959, and in every year since, the dynamics of the Pacific Coast and Basin have been reported and described. Our role in the nation's world commerce and national security seems everexpanding Navigation continues as a principal and vital element of such capabilities. Further, westerly migration and indigenous growth continues our population climb. Water-related recreation remains the single-most-popular form, maintaining pressure for expanding boating and shallow-draft facilities.

Aberrant weather patterns have major effect on all water projects, including those husbanded by C-MANC. Among the latter are shoreline and beach erosion, the most significant of which is the Coast of California, Storm and Tidal Wave Study, for which we request consideration of $500,000 in additional funding for the coming fiscal year. C-MANC's testimony to you on this special study in past years -- as to its need and significance, not only to California but in the national context -- are not now repeated. Suffice to say that it is an investment -- a long-term commitment -- which should increasingly pay off in new knowledge and understanding of the dynamic processes involved and the most effective way to study, measure and evaluate them.

1985's total volume of revenue cargo through California ports increased 6.5% over the previous year. Our commercial navigation infrastructure requires -- and receives -- major, continuous improvements and investments by those responsible for its operation, as do shallow draft facilities serving the fisheries and recreational boaters. Both are faced with possible funding restraints should sale of revenue bonds be adversely affected by significant Federal tax changes. Further, the costs and delays involved in environmental regulations and standards -- otherwise supported by project sponsors to the extent that they are effective and can be met -- largely originate with Federal demands and requirements. These additional costs all too often escalate by unnecessary processing and review delays, placing additional burdens on the maintenance and improvement of projects.

Finally, added and new emphasis on security, preparedness and response capabilities require that the port system be increasingly involved in such national strategic considerations.

It is our conclusion -- a position repeated over the almost three decades of C-MANC representation here -- that the traditional Federal roles must have continuity. The United States Government should not and cannot undertake sudden major shifts in its 200 years of prime responsibility for the nation's navigational system. We recognize that there is need for evolutionary modification of this role, but negative, counterproductive and even destructive impacts which could occur must be minimized. In the current instance, authorizing legislation now pending would appear to generally meet such positive criteria. But adequate funding must not be neglected, despite exigencies of budgetary deficits.

The investment that you and your predecessors have assured over the years in the kinds of projects we are supporting here today have almost without exception exceeded expectations in their productivity and return to the nation. We ask only that this record and achievement be considered fully in the context of the austerity demands placed on you and the Congress generally.

Thank you for this opportunity to appear once again before you, to present our recommendations and requests for your consideration, to report briefly on our needs and developments, and to comment on Federal policies and programs.

(Amounts in Thousands)

Project	Total Cost C of E	Balance After FY 1985	FY 1986 Conference Allowance	FY 1986 Work Allowance	FY 87 C-MANC Recommendations President's Budget	FY 87 C-MANC Recommendations Additional Total Recommendations (When Greater than Budget)	Purpose of Funding
POTENTIAL NEW NAVIGATION STUDIES							
Humboldt Harbor & Bay (Deepening)	330	330	0	0	0	330	Complete Recon Study
Santa Barbara Harbor (Restudy)	220	220	0	0	0	220	Complete Recon Study
Santa Cruz Harbor	145	145	0	0	0	145	Complete Recon Study
West Newport Beach Harbor	260	260	0	0	0	260	Complete Recon Study
NAVIGATION STUDIES IN PROGRESS							
Coast of Northern California (Harbors for Light Draft Vessels) (Moss Landing)	613	0	0	0	0	0	Funded for completion
Los Angeles-Long Beach Harbors	7,800	1,129	0	0	0	500	Continue Feasibility Study
Morro Bay Harbor	434	280	0	0	0	280	Complete Recon Study
North Coast of Los Angeles County	825	660	0	0	0	250	Continue Feasibility Study
Oceanside Harbor	790	110	0	0	0	110	Complete Feasibility Study
Redondo Beach Harbor (King Harbor)	730	386	200	0	0	200	Continue Feasibility Study
San Francisco Bay Area (In-Depth)	3,220	429	132	132	0	0	
Int #4 (Collection & Disposal of Debris)	(465)	(132)	(132)	(132)	(0)	(0)	Will be Completed FY 86
Int #5 (Redwood City Harbor)	(471)	(297)	(0)	(0)	(0)	(0)	Await Development of Additional Commerce
San Francisco Bay Shoreline	4,280	2,155	520	520	840	n/c	Continue Feasibility Studies
Int #1 (S. Alameda & Santa Clara)	(1,800)	(470)	(295)	(350)	(120)	n/c	Complete Interim Feasibility Study
Int #2 (San Mateo & N. Alameda)	(1,360)	(775)	(225)	(170)	(440)	n/c	Continue Interim Feasibility Study
Int #3 (North Bay)	(1,005)	(870)	(0)	(0)	(280)	n/c	Continue Interim Feasibility Study
Int #4 (Final)	(115)	(75)	(0)	(0)	(0)	(0)	
San Leandro Bay	890	840	0	0	0	375	Complete Recon Study
Sunset Harbor	1,830	1,134	250	250	0	884	Complete Feasibility Study
Ventura Marina (Review)	635	385	100	100	175	285	Complete Feasibility Study

(Amounts in Thousands)

Project	Total Cost C of E	Balance After FY 1985	FY 1986 Conference Allowance	FY 1986 Work Allowance	FY 87 C-MANC Recommendations President's Budget	FY 87 C-MANC Recommendations Additional Total Recommendations (When Greater than Budget)	Purpose of Funding
SHORELINE PROTECTION STUDIES IN PROGRESS							
Point Mugu to San Pedro Breakwater	424	300	0	0	0	300	Complete Recon Study
SPECIAL STUDIES							
Coast of California, Storm & Tidal Waves	7,740	4,820	1,350	1,335	1,000	1,500	Continue Study of entire Coast of California
CONTINUATION OF PLANNING AND ENGINEERING STUDIES							
Oakland Inner Harbor	18,300 (820)	(795)	(380)	(380)	(415)	n/c	Complete Design, combine with Oakland Outer Harbor
ADVANCE ENGINEERING AND DESIGN							
Noyo River and Harbor (Breakwater)	6,900 (1,560)	(787)	(0)	(0)	(0)	(500)	Continue Design
Noyo River and Harbor (Channel Extension)	2,100 (580)	(130)	(0)	(0)	(0)	(130)	Complete Design

(Amounts in Thousands)
FY 1986

Project		Total Cost C of E	Balance After FY 1985	FY 1986		FY 87 C-MANC Recommendations		Purpose of Funding
				Conference Allowance	Work Allowance	President's Budget	Additional Total Recommendations (When Greater than Budget)	
				NEW CONSTRUCTION PROJECTS				
Oakland Outer and Inner Harbors	(N)	33,200	33,165	155	230	2,500	3,000	Initiate Construction of Combined Project
				CONTINUING CONSTRUCTION PROJECTS				
Fisherman's Wharf Area	(N)	8,900	5,550	5,000	5,000	550	n/c	Complete Construction
Port Hueneme	(N)	2,501	1,020	0	0	1,020	n/c	Initiate and Complete Channel Widening
Port San Luis	(N)	11,400	10,680	0	0	0	500	Complete Design
Richmond Harbor	(N)	19,300	19,285	525	935	8,000	n/c	Continue Construction
Sacramento River Deep Water Ship Channel	(N)	52,700	52,646	0	1,180	3,600	n/c	Continue Construction
San Francisco Bay to Stockton (John F. Baldwin & Stockton Ship Channels)	(N)	138,000	103,057	21,000	13,600	3,900	5,000	Complete Stockton Channel Deepening, initiate wavewash protection, and continue design for Phase 3.
Santa Cruz Harbor	(N)	4,202	2,230	2,230	2,230	0	0	Funded for Completion
Imperial Beach	(BE)	3,340	0	0	0	0	0	No requirement pending resolution of litigation
Surfside-Sunset & Newport Beach	(BE)	29,400	19,678	0	0	0	0	No current requirement for periodic nourishment

(Amounts in Thousands)

Project	FY 85 Obligations	FY 1986 Estimated Obligations	FY 1987 FY 87 C-MANC Recommendations President's Budget	FY 1987 FY 87 C-MANC Recommendations Additional Total Recommendations (When Greater than Budget)	Purpose of Funding
		OPERATIONS AND MAINTENANCE PROJECTS			
Bodega Bay Harbor	198	27	0	100	Maintenance of Spud Point
Channel Islands Harbor	3,522	497	0	3,000	Periodic Dredging
Crescent City Harbor	1,103	4,379	455	n/c	Monitor Breakwater Repairs
Dana Point Harbor	17	0	355	n/c	Periodic Dredging
Halfmoon Bay Harbor	262	19	0	0	No maintenance required
Humboldt Harbor and Bay	6,076	4,451	2,318	n/c	Dredging & Breakwater Repairs
Los Angeles - Long Beach Harbors	969	862	1,457	n/c	Dredging mouth of Los Angeles River
Los Angeles - Long Beach Harbors Model	130	135	140	1,300	Upgrade model to modern standards
Marina Del Rey	0	20	1,175	n/c	Periodic Dredging
Morro Bay Harbor	2,956	134	0	0	No maintenance required
Moss Landing Harbor	178	27	740	n/c	Periodic Dredging
Napa River	0	0	0	0	No maintenance required
Newport Bay Harbor	11	0	0	0	No maintenance required
Noyo River and Harbor	451	559	380	n/c	Dredging
Oakland Harbor	1,335	1,250	1,624	n/c	Dredging and Bridge Repairs
Oceanside Harbor	0	980	480	n/c	Dredging
Oceanside Experimental Sand By-Pass System	1,153	5,601	1,918	n/c	Operation of Bypassing Plant
Petaluma River	56	0	3,225	n/c	Dredge across flats
Port Hueneme	10	16	0	0	No maintenance required
Port San Luis	190	78	0	0	No maintenance required
Redondo Beach Harbor (King Harbor)	16	131	0	0	No maintenance required
Redwood City Harbor	0	0	0	400	Dredge 5 foot Recreation Channel
Richmond Harbor	622	1,276	1,745	n/c	Dredging
Sacramento River					
Sacramento River (30 ft.)	1,794	179	545	n/c	Dredging and stone protection
Sacramento River (Shallow Draft)	35	93	63	n/c	Maintain lock

(Amounts in Thousands)

Project	FY 85 Obligations	FY 1986 Estimated Obligations	FY 1987 FY 87 C-MANC Recommendations President's Budget	FY 1987 FY 87 C-MANC Recommendations Additional Total Recommendations (When Greater than Budget	Purpose of Funding
		OPERATIONS AND MAINTENANCE PROJECTS			
San Francisco Bay-Delta Model Structure	1,176	1,204	1,029	n/c	Annual maintenance and operation of Visitors Center
San Francisco Harbor	2,064	1,682	1,370	n/c	Dredging
San Joaquin River	625	403	2,013	n/c	Dredging
San Leandro Marina	125	0	0	0	No maintenance required.
San Pablo Bay and Mare Island Strait	1,738	3,851	4,640	n/c	Dredging
San Rafael Creek	0	450	0	2,000	Periodic dredging
Santa Barbara Harbor	324	784	800	n/c	Dredging
Santa Cruz Harbor	867	1,555	0	800	Dredging
Suisun Bay Channel	207	0	760	n/c	Dredging
Suisun Channel	0	0	0	0	No maintenance required
Ventura Harbor	1,628	1,765	1,690	n/c	Dredging
Drift Removal (S.F. Harbor and Bay)	1,040	1,404	1,380	n/c	Annual maintenance
		#	#	#	

STATEMENT OF ED GORMAN, CHIEF HARBOR ENGINEER, PORT OF LOS ANGELES

Mr. LANGNER. With us today we have the chairman of our Marine Affairs and Navigation Conference, Edward Gorman, chief habor engineer of the Port of Los Angeles.

Mr. GORMAN. Mr. Chairman and members of the committee, it is my privilege and honor to be here today representing all the members of the California Marine Affairs and Navigation Conference. Thank you for setting this time aside for us today. I am also submitting written testimony for the Port of Los Angeles. Thank you.

[The statement follows:]

STATEMENT OF ED GORMAN, CHIEF HARBOR ENGINEER, PORT OF LOS ANGELES

Mr. Chairman, I would like to submit a statement which outlines why it is important that the federal government continue to support and to fund two Army Corps of Engineers studies which are essential to the future development of the San Pedro Bay and to the Ports of Los Angeles and Long Beach.

In last year's Appropriations bill (P.L. 99-141), Congress generously included $1.268 million for the "Tidal and Resonance Study" to be undertaken in conjunction with the Corps' Vicksburg Model. In addition, $500,000 was appropriated for the continued work on phase one of the "2020 Master Plan".

Since the date of enactment, however, none of the funds have been released and consequently the scheduled work on the two studies have not yet begun. This delay is unfortunate, Mr. Chairman, for several reasons which I would like to outline for the Subcommittee.

First, is the relevance of the completion of phase one of the study to the preparation and approval of the Chief's Report on the channel deepening project which is included in H.R. 6, the Water Resources Development Act of 1986. In fact, there will not be a Chief's Report unless and until the feasibility study for phase one has been completed, and if the Senate and the Administration have their way, the San Pedro Bay project will not be authorized until this this report is completed and submitted to Congress. Obviously then, it is essential that the $500,000 your Subcommittee earmarked last year be used for the purpose it was intended and that the work begin immediately. The first phase of the "2020 Master Plan" study project is going to involve dredging to deepen and create channels and disposal of material in landfill areas. Again, the potential effects which need to be addressed are water quality and ship motion.

It seems to me, Mr. Chairman, that it is blatantly unfair and certainly non-productive for the Administration to drag its heels on the two studies in question, and I urge your Subcommittee to direct the Corps of Engineers to carry out its intent.

Looking ahead to our needs in FY 87, we need $500,000 in additional funding to complete the phase one feasibility study which is a part of the "2020 Master Plan" study. Last year before your Subcommittee, we requested $1 million and, having been granted one-half that amount, we are back this year asking that the final amount be appropriated as part of the FY 87 budget.

With regard to the FY 87 funding of the "Tidal and Resonance Study", our request is for an additional $1.3 million, of which $140,000 is included in the President's budget under operation and maintenance for the Vicksburg Model. This amount is consistent with the amount of work that can be productively accomplished at the Vicksburg Model on an annual basis. The Vicksburg Model, which is producing data that is vital to the assessment of the impact and desirability of future dredging and landfills, will permit an evaluation of the soundness of proposed harbor changes that influence tidal circulation and harbor resonance.

The study will also provide a sound data base and improve our understanding of the magnitude, source, and effect of wave energy on ship mooring at any selected location. It will enable us to firmly identify directions, velocities, and wind effects on patterns of natural circulations influenced by tidal action. This data will improve our ability to plan and implement major harbor development projects.

At the present time, our information on existing circulation and surge conditions and the effects of wind and tide thereon in the harbor is incomplete and inconclusive. Without it, there is a very real danger that a well-planned and well-intentioned project that alters the bottom configuration could disrupt circulation patterns and create unexpected problems elsewhere in the harbor. This study will furnish vital information to help us avoid such problems---if it is funded to completion.

As a matter of fact, the Army Corps of Engineers has the responsibility to provide this basic data on harbor conditions when we submit proposals for site-specific projects. However, their data base on our local waters is incomplete, and they do not now have adequate information on harbor conditions to properly evaluate our long-range development program. The Port of Los Angeles is investing approximately $100 million per year from its own revenues in its Five-Year Development Program. Therefore, your approval of this appropriation is extremely important to the financial planning of our harbor.

We at the Port of Los Angeles are doing all we can to meet the growing demands of international trade. We project that our volume of trade will expand tremendously in the next ten years. However, unless we are able to lay the groundwork for fundamental expansion of our port during this same period of time we will have reached our capacity and cease to grow.

Mr. Chairman, let me conclude by saying how much we value the vision which this committee has demonstrated in allocating scarce federal resources to projects such as ours. For our part, we view our commitment to the expansion of waterborne transportation as a service to the Nation as much as it is to our region. We enjoy the opportunity of working with you in carrying out this charge and of putting our local resources to productive use. Thank you.

PORT HUENEME, CA

STATEMENT OF BOB JENNINGS, COMMISSIONER, PORT OF HUENEME

Mr. LANGNER. On behalf of the Port of Hueneme, we have Commissioner Bob Jennings here to present a statement. He is accompanied by Ray Fletcher, a commissioner.

Mr. Jennings.

Mr. JENNINGS. Mr. Chairman, I am Commissioner Bob Jennings, as Mr. Langner said. The Port of Hueneme is the only deep seaport between Los Angeles and San Francisco. I appear before you today in support of the $1,020,000 identified in the President's fiscal year 1987 budget for the construction project at the Port of Hueneme. These funds will initiate and complete construction of phase 3 of the project authorized for the Rivers and Harbors Act of 1968, section 101.

I also submit a statement for the record in support of this request. Thank you, Mr. Chairman.

[The statement follows:]

STATEMENT OF PORT OF HUENEME, CA

RECOMMENDATION: The Oxnard Harbor District Board of Harbor Commissioners recommends that the Congress of the United States approve the appropriation of $1,020,000 as part of the fiscal year 1987 federal budget for the "Continuing Construction Project-Port Hueneme (Phase III)" (Initiate and Complete Construction).

BACKGROUND: Port Hueneme Harbor was authorized by the Rivers and Harbors Act of 1968, Section 101, Public Law 90-483, as shown in House Document 362, 90th Congress, 2nd Session. Design Memorandum No. 1 for Port Hueneme, prepared in February 1974, recommended that construction of the authorized project be performed in three phases. Phases I and II were completed in September 1972 and 1975, respectively. Phase I was constructed by the local sponsor who was then reimbursed in accordance with Section 215 agreement of PL 90-483. Phase III was previously deferred pending demonstration of need.

Last year, the Oxnard Harbor District Commissioners appeared before Congress seeking reactivation of Phase III. Exhibit 1 is Resolution No. 577 of the Oxnard Harbor District urging the allocation of federal funds to complete Phase III of the previously authorized project. During 1985, the Los Angeles District, U.S. Army Corps of Engineers, initiated and completed "Supplement No. 1 to Design Memorandum No. 1", September 1985.

This supplement to the original Design Memorandum, concluded "increased tonnage and traffic through the harbor (Port of Hueneme) have resulted in a large demand for berthing areas and have created congestion in channel A. Present facilities operated by the Oxnard Harbor District are not capable of handling present and projected harbor traffic." The District Engineer "recommends a modification to Phase III of the authorized project" with a total first cost for the general navigational facilities of $1,883,000, comprising a cost of $1,140,000 to the United States and $743,000 to the Oxnard Harbor District. The average annual federal cost is estimated to be $79,000 using the authorized interest rate of 3 1/4 percent. The average annual benefit is estimated to be $186,000. The benefit-to-cost ratio is estimated to be 2.4 to 1.0. Using the current interest rate of 8 5/8 percent, the benefit-to-cost ratio is estimated to be 1.1 to 1.0. The Supplemental Report concluded: "The plan recommended in this supplemental design memorandum is considered to be the most economic and effective scheme for handling present and future harbor operations."

Attached as Exhibit 2 are pertinent sections from the Supplemental Design Report for the Committee's consideration.

RESOLUTION NO. 577

RESOLUTION OF THE BOARD OF HARBOR COMMISSIONERS, OXNARD HARBOR DISTRICT URGING THE ALLOCATION OF FEDERAL FUNDS TO COMPLETE PHASE III OF THE CONGRESSIONAL APPROVED NAVIGATION PROJECT AT THE PORT OF HUENEME

WHEREAS, a navigation project for the deep water Port of Hueneme, California was authorized by the Rivers & Harbors Act of 1968, Section 101, Public Law 90-483 as shown in House Document 362, 90th Congress, 2nd Session; and

WHEREAS, the Oxnard Harbor District expended the proceeds of a $4.9 million general obligation bond issue to complete its harbor expansion program in 1972, known as Phase I of the Port of Hueneme Navigation Project; and

WHEREAS, in 1975 the United States Government provided $805,000 to complete Phase II of the Port of Hueneme Navigation Project by deepening the harbor basin and channel A waterway to a depth of -36 mean lower low water; and

WHEREAS, the need has been demonstrated to complete the final phase of the Port of Hueneme navigation project known as Phase III; and

WHEREAS, completion of Phase III of this navigation project will result in locally financed improvements to the port complex totalling approximately $10 million; and

WHEREAS, the federal portion of Phase III of the Port of Hueneme Navigation Project is anticipated to cost $2 million; and

WHEREAS, the continued growth of domestic and international commerce has shown a dramatic increase over the last five years; and

WHEREAS, a recent ocean cargo marketing survey shows a clear need for completion of Phase III of the Port of Hueneme navigation project; and

WHEREAS, the Board of Harbor Commissioners has recognized the overriding need to expand the port and has set in motion a plan to accomplish this important objective.

NOW, THEREFORE, BE IT RESOLVED that this Oxnard Harbor District Board of Harbor Commissioners goes on record of overwhelmingly supporting completion of Phase III of the Port of Hueneme Navigation Project; and

BE IT FURTHER RESOLVED that this Board of Harbor Commissioners respectfully urges the congress that the federal share of funding be allocated in fiscal year 1986 in order to complete the final phase of this very important navigation project.

ADOPTED, SIGNED and APPROVED this 11th day of March, 1985.

SUPPLEMENT TO DESIGN MEMORANDUM NO.1

General Design For Port Hueneme Harbor, California

EXECUTIVE SUMMARY

Port Hueneme Harbor was authorized by the Rivers and Harbors Act of 1968, Section 101, Public Law 90-483, as shown in House Document 362, 90th Congress, 2nd Session.

Design Memorandum No.1 for Port Hueneme, prepared in February 1974, recommended that construction of the authorized project be performed in three phases. Phases I and II were completed in September 1972 and 1975, respectively. Phase I was constructed by the local sponsor who was then reimbursed in accordance with Section 215 agreement of PL 90-483. Phase III was deferred pending demonstration of need.

Increased tonnage and traffic through the harbor have resulted in a large demand for berthing areas and have created congestion in channel A. Present facilities operated by the Oxnard Harbor District (OHD) are not capable of handling present and projected harbor traffic.

The existing project consists of two jetties 800 and 1000 feet long, respectively; an approach channel 800 feet long, 600 feet wide, and 40 feet deep at mean lower low water (MLLW); an entrance channel 1550 feet long, 330 feet wide, and 36 feet deep; a central basin 1,080 feet long, 1025 feet wide, and 35 feet deep; and channel A, which is 2,320 feet long, varying from 160 feet to 275 feet wide, and 35 feet deep.

The District Engineer recommends a modification to Phase III of the authorized project. The Phase III recommended plan consists of widening the east portion of channel A by 115 feet to a depth of 20 feet. This dredging would provide for an addition of one berth to the four existing deep-draft berths maintained and operated by the OHD. The 20 foot depth was chosen as the recommended plan due to a lack of NED benefits below that limit. The remaining work to complete the authorized project will be reclassified to the "Inactive" category. The remaining work includes the undredged 115 feet widening of channel A from -20 to -35 feet MLLW and extension of channel A to 2830 feet in length, 275 feet wide, and 35 feet deep.

The total first cost for the general navigational facilities of the recommended plan is estimated at $1,883,000, comprising a cost of $1,140,000 to the United States and $743,000 to the Oxnard Harbor District.

The annual Federal cost for operation and maintenance for the Phase III area is estimated to be $2,000.

The average annual Federal cost is estimated to be $79,000 using the authorized interest rate of 3-1/4 percent. The average annual benefit is estimated to be $186,000. The benefit-to-cost ratio is estimated to be 2.4 to 1.0.

Using the current interest rate of 8-5/8 percent the average annual cost is $167,000. The average annual benefit is estimated to be $183,000. The benefit-to-cost ratio is estimated to be 1.1 to 1.0.

Environmental impacts of the recommended plan are insignificant. Construction will temporarily disrupt wildlife in the harbor, but no long term effects are expected. A Supplemental Environmental Assessment (SEA) is being submitted as a supplement to the Environmental Impact Statement (EIS) prepared in February, 1974.

The plan recommended in this supplemental design memorandum is considered to be the most economic and effective scheme for handling present and future harbor operations.

PERTINENT DATA

LOCATION

Latitude 34 09' N
Longitude 119 12' W

Tide	Elevation (ft)
Mean Lower Low Water (MLLW)	0.0
Mean Higher High Water (MHHW)	5.4
Mean High Water (MHW)	4.7
Extreme Low Water	-2.5
Mean Sea Level	2.8

Range of Tides	(ft)
Mean	3.7
Diurnal	5.4
Extreme	10.0

EXISTING PROJECT DIMENSIONS

Item	Length (ft)	Width (ft)	Depth (ft)
West Jetty	800		+20
East Jetty	1,000		+20
Approach Channel	800	600	40
Entrance Channel	1,550	330	36
Central Basin	1,080	1,025	35
Channel A	2,320	Varies, 160 to 275 ft	35

RECOMMENDED PROJECT DIMENSIONS

West Jetty	800		+20
East Jetty	1,000		+20
Approach Channel	800	600	40
Entrance Channel	1,550	330	36
Central Basin	1,080	1,025	35
Channel A	2,410	275	35*

*Note: Depths are based on MLLW datum. Phase III portion of channel A is to be dredged to 20 feet depth.

INTRODUCTION

1. Port Hueneme Harbor is a deep-draft commercial and military harbor along the southern California coast, within the city of Port Hueneme, Ventura County, California. It is located about 65 miles northwest of Los Angeles.

2. Design Memorandum No. 1 for Port Hueneme, prepared in February 1974, recommended that construction for Phase III of the authorized project for Port Hueneme Harbor be deferred pending demonstration of need. The study to commence final Phase III construction for Port Hueneme Harbor was initiated as a result of increased demand for berthing areas and facilities in the harbor. Vessel visits by oil supply boats have increased in recent years due to the activity of oil companies in the Santa Barbara Channel. Deep-draft merchant vessel visits have increased from 75 in 1975 to 271 in 1984. In a letter dated May 14, 1980, to the District Engineer, the Oxnard Harbor District (hereafter called OHD) requested initiation of work for Phase III of the authorized project.

AUTHORITY

3. This Supplement to Design Memorandum No.1 is submitted as authorized by Congress, Public Law 90-483, 90th Congress, 2nd Session, approved August 13, 1968, and reads in part as follows:

> "SEC. 101. That the following works of improvement of rivers and other waterways for navigation, flood control, and other purposes are hereby adopted and authorized to be prosecuted under the direction of the Secretary of the Army and supervision of the Chief of Engineers, in accordance with the plans and subject to the conditions recommended by the Chief of Engineers in the respective reports hereinafter designated. The provisions of Section 1 of the River and Harbor Act approved March 2, 1945 (Public Law Numbered 14, 79th Congress, 1st Session), shall govern with respect to projects authorized in this title; and the procedures therein set forth with respect to plans, proposals, or reports for works of improvement for navigation or flood control and for irrigation and purposes incidental thereto, shall apply as if herein set forth in full. Port Hueneme Harbor, California: House Document Number 362, 90th Congress, at an estimated Federal cost of $1,000,000."

PROJECT DESCRIPTION

4. PROJECT AS DESCRIBED IN PROJECT DOCUMENT. The authorized project for Port Hueneme Harbor, California, which was recommended for approval in the Chief of Engineers' report dated June 3, 1968, was published as part of House Document 362, 90th Congress, 2nd Session, herein after referred to as the project document. The principal navigational features of the authorized project, as described in the project document, consist of a) an approach channel 600 feet wide, 800 feet long, and 40 feet deep; b) an entrance channel 330 feet wide, 1,550 feet long, and 36 feet deep; c) a central basin 1,025 feet wide, 1,080 feet long, and 35 feet deep; a channel (channel A) 275 feet wide, 2,830 feet long, and 35 feet deep; and e) two rubblemound stone jetties 800 and 1,000 feet long, respectively (see plate 1).

5. EXISTING PROJECT FEATURES. The existing principle navigational features in Port Hueneme Harbor consist of the approach channel, entrance channel, central basin, and the two rubblemound stone jetties at authorized project dimensions. Channel A is 2320 feet long, with a varying widths of 160 to 275 feet, and a depth of 35 feet (see plate 1).

PURPOSE AND SCOPE OF STUDY

6. The purpose of this supplement is to provide the justification for Phase III construction and to present the basis for modifications to the authorized project document plan. The supplement will discuss the present and projected harbor conditions, plan formulation for the recommended Phase III construction, local requirements, and will address environmental concerns.

PROJECT HISTORY SINCE AUTHORIZATION

7. General Design Memorandum No.1 (GDM No. 1) was prepared in February 1974. It recommended that:

a. The existing harbor for deep-draft vessels at Port Hueneme be adopted as a Federal project to provide for maintenance of west and east jetties, approach channel, entrance channel, central basin, and channel A, as well as to provide for improvement of the central basin and channel A by deepening to 35 feet, and lengthening and widening channel A.

b. The work be performed in three incremental phases. The completed work of phases I and II are illustrated on plate 3.

c. The third phase be deferred, pending demonstration of need. This phase would complete the authorized project.

8. Phase I construction was completed by the Oxnard Harbor District in February 1972, who was then reimbursed in accordance by a Section 215 agreement of Public Law 90-483. Construction consisted of dredging channel A to varying widths of 160 to 275 feet; 2320 feet in length, and 35 feet deep. Dredged material amounted to 290,000 cubic yards within Federal project limits and 287,000 cubic yards along the OHD pierhead. The Oxnard Harbor District was reimbursed $382,000 in August 1973 for the dredging within the Federal project limits.

9. Phase II construction was completed under Corps of Engineers contract in September 1975. Construction consisted of dredging the central basin and a portion of channel A to 35 feet from the existing depth of approximately 32 feet. Approximately 160,000 cubic yards were dredged at a cost of $579,000.

10. In 1984 maintenance dredging was required in the approach channel, entrance channel, central basin, and channel A using Federal operation and maintenance funds. This is the first time that maintenance dredging has been conducted since authorization. Dredging was completed in June 1984 and 302,000 cubic yards were removed at a construction cost of $1,215,250.

11. An Environmental Impact Statement (EIS) was prepared in February 1974. It concluded that the predicted increase of shipping in Port Hueneme Harbor would slightly disrupt marine life in the harbor. The ecosystem within the harbor would be temporarily affected by the proposed construction and dredging operations but any long term effects would be negligible.

12. In December 1984 the Oxnard Harbor District re-acquired 19.9 acres of land from the United States Navy in accordance with the Omnibus Defense Authorization Act of 1983, PL 98-115. The 19.9 acres include the use of the 655 foot U.S. Navy wharf No. 2, submerged land at the northeastern end of channel A, and approximately 15 acres of backlands. The area re-acquired from the Navy is shown in plate 1.

DESCRIPTION OF PORT HUENEME HARBOR

Port Hueneme Harbor is located adjacent to the U.S. Navy Construction Battalion Center. The facilities in the harbor are maintained and operated by the Oxnard Harbor District and the U.S. Navy.

HARBOR FACILITIES

13. OXNARD HARBOR DISTRICT. The existing harbor facilities operated and maintained by the Oxnard Harbor District (shown in plate 4) consist of the following:

a. Wharf No. 1. This is the OHD's main cargo wharf. It is 1800 feet long, providing room for three deep draft berths. The concrete apron is 62 feet wide and the deck elevation is at +13 feet. The wharf consists of a cast-in-place concrete deck supported by pre-stressed concrete piles.

b. U.S. Navy Wharf No. 2. Acquired by OHD in December 1984, this wharf is approximately 655 feet long, 94 feet wide, and 14 feet above MLLW. It provides room for one deep draft berth. The construction of this wharf is similar to wharf No. 1.

c. Channel Wharf. This wharf, which is located south of the entrance channel and next to the end of wharf No. 1, is approximately 390 feet long and 31 feet wide. This wharf has facilities for unloading and processing kelp; fish escalators for unloading commercial fishing boats; and a livestock chute where cattle and sheep are loaded and unloaded for transportation to and from the Santa Barbara Channel Islands.

d. Staging Wharves. Two small timber wharves are located easterly of wharf No. 2, on the north side of the channel. Each measures 50 feet along the face and 70 feet in width.

e. Warehouses. Three warehouses containing 123,200 square feet are in the area of wharf No. 1. These structures are utilized for the accomodation of transit cargoes.

f. Open Storage. The Harbor District has approximately 27 acres of leasable land in the harbor area. The majority of the land is leased for the accomodation of offshore oil equipment, stevedoring gear and equipment, bunkering and diesel fuel facilities, and parking facilities for the local labor force and tenant activities.

g. Small Boat Moorings. Boat slips consisting of floating wood platforms are at the east end of channel A. They have a capacity to accommodate six commercial and sportfishing boats.

14. U.S. NAVY. The U.S. Navy maintains and operates approximately 4,350 feet of concrete wharfs around the perimeter of the central basin. Port Hueneme Harbor is the home port for the NORTON SOUND, target destroyers, and towing vessels. Military Sealift Command (MSC) ships, Navy fleet ships, and charters also utilize the Navy wharves. Recovery boats to be used for retrieving jettisoned fuel pods from future Space Shuttle rockets launched from Vandenberg Air Force Base are home ported in the harbor. In addition to peacetime operation, the Navy utilizes the harbor for mobilization. The Navy utilized OHD facilities for national mobilization purposes in 1942 and again during the Vietnam conflict. In the purchase agreement of the Navy Wharf No. 2 and adjacent lands, the Government has reserved the right to re-enter and utilize the area and all improvements made thereon upon determination by the Secretary of Defense.

HARBOR CONDITIONS

15. Current port and terminal facilities operated by the Oxnard Harbor District are being utilized beyond capacity. The amount of berthing areas for ocean going cargo vessels and oil supply boats are not sufficient to handle the current and projected traffic for the port. Although the total amount of tonnage through the port since 1982 is below the peak tonnage of 1979, the amount of vessel visits by oil supply boats has increased significantly. The increased vessel visits are due to the activity of the offshore oil industry in the Santa Barbara Channel. A reinstituted license agreement between the Navy and the Oxnard Harbor District (OHD) permits commercial ships to berth at Navy wharves on a space-available basis when wharf No. 1 is filled. The vessels must immediately leave the Navy wharf when a berth is available on OHD wharves to load and unload. (There have been 721 instances over a 12-month period in 1979 when a commercial ship or a supply boat has tied up at a Navy wharf for part of a day.) To accommodate the large quantity of supply boats calling at Port Hueneme, OHD will often moor the vessels two abreast along the length of wharf No. 1. There have been instances where vessels were moored eight abreast and encroached 200 feet into channel A. This increases congestion in the harbor and presents a hazard to vessels attempting to navigate the 275 foot wide channel.

16. OPERATIONS. Vessels entering and leaving Port Hueneme Harbor are assisted by commercially operated tugs and harbor pilots. The overall authority in the harbor is the U.S. Navy. The Oxnard Harbor District maintains their commercial facilities and operations in the harbor.

17. COMMERCE. Commerce through Port Hueneme Harbor has grown steadily since the project was authorized in 1968. Table 1 indicates the amount of tonnage through the harbor by the type of commodity for years 1975 to 1984. Import and export tonnage increased from 142,466 short tons in 1968 to a peak of 1,527,774 short tons in 1981. For the years 1982 and 1983 the total tonnage through the harbor was reduced to 486,420 and 592,700 short tons respectively. The reduction in tonnage is due mainly to the cancellation of approximately 1,100,000 tons per year of residual fuel oil for the nearby Southern California Edison Ormond Beach facility. The facility switched to use of natural gas for its main source of fuel in 1982. Since 1979, the commodities through the harbor that have increased significantly are automobiles, bananas, offshore fuel and supplies, and citrus products.

18. VESSEL TRAFFIC. Vessel visits at Port Hueneme Harbor have increased significantly since 1968. Table 2 indicates the number of vessel visits through the harbor according to drafts. The number of visits by vessels of 19 feet draft and above have increased steadily. Deep draft merchant vessel visits have increased from 75 in 1975 to 271 in 1984. For smaller vessels the number of visits increased from 154 in 1980 to 1,437 visits in 1982. Oil supply boats serving platforms in the Santa Barbara Channel have increasingly used Port Hueneme Harbor as a home base for supplies. This activity is expected to peak in the years 1990 to 1995.

19. OFFSHORE ACTIVITY. There are 14 existing offshore oil-producing platforms in Santa Barbara Channel. These platforms are supported by an average total of 52 boats, both supply and crew, operating out of Port Hueneme. The harbor is identified as the primary equipment staging and operational support base. Construction support required of the Port consists of short-term marshalling and storage of various machinery, equipment, and supplies for the offshore platforms.

TABLE 1
VESSEL FORECAST FOR PORT HUENEME HARBOR
1985

COMMODITY	REQUIRED DEPTH	TONNAGE PER YEAR (M. TONS)	NUMBER OF VISITS	AVERAGE TURNAROUND TIME (HOURS)	TOTAL BERTH HOURS
Automobiles	24	97,000	50	24	1,200
Bananas	22	176,000	69	96	6,600
Citrus	30	12,000	12	48	576
Wood Pulp	35	37,000	5	48	240
Other, Non-oil Related	20-30	68,000	133	24	3,200
SUBTOTAL for 1985		390,000	269		11,816
Oil Related Supplies for 1985	20	215,000	1,700	8	13,600
TOTAL for 1985		605,000			25,416

YEARS 1995-2035

COMMODITY	REQUIRED DEPTH (FEET)	TONNAGE PER YEAR (M. TONS)	NUMBER OF VISITS PER YEAR	AVERAGE TURNAROUND TIME (HOURS)	TOTAL BERTH HOURS PER YEAR
Automobiles	24	110,000	50	24	1,200
Bananas	22	350,000	113	96	10,848
Citrus	30	50,000	24	48	1,152
Lumber	24	60,000	18	36	648
Salt	30	150,000	15	48	720
Potash, Soda Ash, Borax	35	50,000	50	48	2,400
Wood Pulp	35	36,000	6	48	288
Steel Products	35	120,000	12	48	576
SUBTOTAL for 1995-2035		926,000	288		17,832
Oil Related Supplies (1995)	20	900,000	3,300	8	26,400
TOTAL for 1995		1,826,000	3,579		44,232
Oil Related Supplies (2005-2035)	20	215,000	1,700	8	13,600
TOTAL for 2005-2035		1,126,000	1,979		31,432

CALIFORNIA ASSOCIATION OF PORT AUTHORITIES

General Cargo Tonnage Reported For 1984-85
(Metric Revenue Tons In Thousands)

Rank	Port	Tonnage	Change From: Last Year	Change From: Ten Yrs. Ago	Market Share: This Year	Market Share: Last Year	Market Share: Ten Yrs. Ago
1	Long Beach..................	22,584.4	0%	249%	37%	42%	30%
2	Los Angeles.................	22,200.0	36%	328%	36%	31%	24%
3	Oakland.....................	12,569.1	15%	110%	20%	21%	27%
4	San Francisco...............	2,394.0	51%	-18%	4%	3%	13%
5	Hueneme.....................	604.7	16%	1,090%	1%	1%	0%
6	San Diego...................	555.1	44%	78%	1%	1%	1%
7	Encinal Terminals...........	262.9	2%	-35%	0%	0%	2%
8	Sacramento..................	243.4	-7%	42%	0%	0%	1%
9	Stockton....................	231.5	24%	238%	0%	0%	0%
10	Richmond....................	147.7	-41%	-52%	0%	0%	1%
11	Redwood City................	.0	0%	0%	0%	0%	0%
	Total, General Cargo.......	61,792.8	16%	182%	100%	100%	100%
	Southern California Ports..	45,944.3	16%	282%	74%	75%	55%
	Northern California Ports..	15,848.5	18%	61%	26%	25%	45%
	Large Ports(L.B.,L.A.,Oak.)	57,353.5	16%	225%	93%	94%	81%
	Small Ports(8 Others)......	4,439.3	29%	5%	7%	6%	19%

Table C

FORECAST TRAFFIC
(in revenue tons and dollars)

		Fiscal Year from July 1 to June 30				
COMMODITIES		1985-86	1986-87	1987-88	1988-89	1989-90
General Cargo						
Autos/Pickups (Mazda)	r.t.[1]	110,000	110,000	110,000	120,000	120,000
	w & d[2]	$396,000	400,000	420,000	490,000	510,000
(Other)	r.t.	-0-	10,000	15,000	20,000	25,000
	w & d	-0-	110,000	180,000	250,000	330,000
Fresh Fruit (Del Monte)	r.t.	120,000	120,000	120,000	120,000	120,000
	w & d	$336,000	350,000	370,000	400,000	440,000
(Other Banana)	r.t.	30,000	40,000	40,000	45,000	45,000
	w & d	$135,000	180,000	190,000	230,000	240,000
Citrus	r.t.	20,000	25,000	25,000	30,000	30,000
	w & d	$ 76,000	90,000	100,000	130,000	130,000
Woodpulp	r.t.	40,000	42,000	45,000	47,000	50,000
	w & d	$168,000	180,000	200,000	220,000	250,000
Other[3] plus Linehandling	r.t.	40,000	45,000	50,000	55,000	60,000
	w & d	$330,000	380,000	440,000	510,000	580,000
Subtotal		$1,441,000	1,690,000	1,900,000	2,230,000	2,480,000
ROUNDED		$1,400,000	1,600,000	1,900,000	2,200,000	2,400,000
Offshore						
General Cargo & Fuel	r.t.	240,000	300,000	300,000	360,000	360,000
	w & d	$1,200,000	1,500,000	1,650,000	2,050,000	2,160,000
Water		$ 90,000	110,000	140,000	170,000	170,000
Demurrage		$ 60,000	75,000	80,000	100,000	100,000
Subtotal		$1,350,000	1,685,000	1,870,000	2,320,000	2,430,000
ROUNDED		$1,300,000	1,600,000	1,800,000	2,300,000	2,400,000

[1] r.t. = revenue tons

[2] w & d = wharfage and dockage revenues, including bunker fuel

[3] includes fresh and prepared fruit, seafoods, poultry products, wheat, lumber, iron/steel, and miscellaneous

THE OXNARD HARBOR DISTRICT - A FACT SHEET

The Oxnard Harbor District's boundaries define an area of approximately 400 square miles overlapping the 21st Congressional District in Ventura County, California. It includes the incorporated cities of Oxnard, Port Hueneme, Camarillo, most of the developed area of Thousand Oaks, several unincorporated communities, and the U.S. Navy installations at Point Mugu.

Population of the District, estimated at 300,000, continues to grow rapidly. Assessed valuation of the District for the year 1984-85 was $9,783,773.913. Development within the District includes a broad range of substantial industrial, commercial, residential, agricultural, and governmental properties.

The District's facilities and administrative offices are located at the Port of Hueneme. The Port is the only deep-water harbor between Los Angeles and San Francisco. The District operates the commercial Port which provides a total of four deep-water berths capable of handling approximately 800,000 metric tons of general deep draft or medium draft cargo annually. Seven additional berths are available under a licensing agreement with the U.S. Navy, which operates a military port contiguous to the commercial Port. In addition, the District's facilities include 275,000 square feet of covered storage space in five warehouses and a manufacturing building, 5,500 square feet of office space, 5,400 square feet in its administration building, and miscellaneous facilities for bananas, cattle, fish, sportfishing, etc.

The District is operationally self-supporting and has met all general obligation bond service costs without the need of any tax levy for the past eight years.

The District is governed by a five member Board of Harbor Commissioners who are elected at large by the electorate within the District's boundaries. The present Commissioners are: Ray A. Fletcher, President, Oxnard; Cecil L. Schnelle, Vice President, Thousand Oaks; Bob H. Jennings, Secretary, Camarillo; Leo J. Ramirez, Port Hueneme and Stanley J. Daily, Camarillo. The District's Washington representatives are former Congressman Bob Wilson ([202] 484-2970) and Del Smith ([202] 638-5023).

As the only deep-water terminal between Los Angeles and San Francisco, the Port is obviously well situated for freight transportation. The Port is located at the mouth of a deep undersea canyon. Vessel entrance and exit times are therefore minimal and the Port requires very little maintenance dredging. Port Hueneme's advantages vis-a-vis competing ports in the Los Angeles basin or San Francisco Bay area are land and facilities costs, operating flexibilities, labor productivity, less congested freeway and rail system service, and its proximity to the growing areas of northern Los Angeles and Ventura County.

U.S. DEPARTMENT OF TRANSPORTATION

U.S. COAST GUARD

16500
Ser: oan-362-85
29 July 1985

From: Commander, Eleventh Coast Guard District
To: District Engineer, Corps of Engineers, Los Angeles District

Subj: PORT HUENEME HARBOR

1. I have reviewed the draft design document for Port Hueneme Harbor. I concur with the recommended project depth of 20 feet for the channel widening and extension project.

2. The recommended project design will maintain the existing width of 600 feet for the approach channel and 330 feet for the entrance channel. The channel width is reduced by almost half at the entrance channel. Vessels frequently encounter sub-surface current as they approach this narrow portion of the channel.

3. I recommend you conduct a cost/benefit study for a project to widen the entrance channel to a width of 400 feet to allow deep draft vessels more room to maneuver in this portion of the channel.

W. A. McDONOUGH
By direction

PORT HUENEME PILOTS ASSOCIATION

July 1, 1985

Oxnard Harbor District
P. O. Box 608
Port Hueneme
California 93041

Gentlemen:

It has been called to our attention that at present the Army Corps of Engineers has projected a dredged depth of 20 ft. in the berthing area adjacent to the expanded Wharf #2 project. We would like to take this opportunity to express to you that we feel this would not be in the best interest of safely handling ships in and out of the wharves at Port Hueneme.

As the bottom characteristics at the Port of Hueneme are soft mud, the bottom is particularly susceptible to scouring by vessels operating with considerable power near the bottom. If this dock were to be expanded with only a 20 ft. depth in the berthing area, it would then be mainly used by oil supply vessels whose operating drafts would be in the 15 to 20 ft. range. As these vessels have to use considerable power to manuever in and out of the berth, we are of the opinion that this would inevitably result in the bottom area of Wharf #2 being displaced into the 35 ft. depth area of Berth #1. Such shoaling could cause large deep draft vessels to unexplicably shear or ground while being handled in and out of Wharf #1.

Therefore, it is our opinion that it would be in the best interest of the safety of the port to have the berthing area off the projected Wharf #2 expansion dredged to 35 ft. to match the depth of the existing berths.

Sincerely,

Carl R Dingler

Capt. Carl R. Dingler
President

RESOLUTION NO. 487

A RESOLUTION OF THE BOARD OF HARBOR COMMISSIONERS OF THE OXNARD HARBOR DISTRICT URGING CONGRESSIONAL SUPPORT TO SECURE U. S. NAVY WHARF NO. 2 AND 22 ACRES OF BACK-UP LAND

WHEREAS, the Oxnard Harbor District was formed in 1937 for the purpose of building and operating a commercial harbor at the Port of Hueneme; and

WHEREAS, the electorate of the Oxnard Harbor District overwhelmingly approved the issuance of 1.75 million dollars in General Obligation Bonds and in 1940 completed the construction of the original Port of Hueneme harbor basin, breakwaters and 1,200 feet of wharf; and

WHEREAS, the land ownership of the Oxnard Harbor District required for the construction and orderly growth of the Port of Hueneme consisted of 322 acres of land; and

WHEREAS, the Federal Government, acting for the U. S. Navy took possession of the entire commercial Port of Hueneme on March 31, 1942, based on a court order filed on March 16, 1942, in support of World War II efforts; and

WHEREAS, the Oxnard Harbor District in 1947 was granted a leasehold interest on 22 acres of land and a wharf facility within which to operate and conduct commercial port activities; and

WHEREAS, the Oxnard Harbor District on December 15, 1961, was granted the right to reacquire the 22 acres of the original 322 acre commercial Port of Hueneme complex; and

WHEREAS, the Oxnard Harbor District has diligently and effectively planned, financed and constructed modern deep water commercial port facilities at the Port of Hueneme and has added to the 22 acres reacquired from the U. S. Navy; and

WHEREAS, the Oxnard Harbor District has now developed its commercial port facilities into a viable economic contributor to the economy of Ventura County at no cost to the taxpayers; and

WHEREAS, the activities conducted from the Oxnard Harbor District's commercial port facilities now account for over 2,400 jobs and a 26 million dollar annual payroll, and growing at a rapid rate; and

WHEREAS, the Oxnard Harbor District now has an urgent need for long term usage of land and wharf facilities within which to accommodate not only current commercial port related business but provide for the orderly growth of the commercial port; and

WHEREAS, the U. S. Navy at its Construction Battalion Center in Port Hueneme presently owns approximately 1,650 acres of land and five wharf facilities; and

WHEREAS, included within the 1,650 acres are 300 acres which formerly were owned and operated by the Oxnard Harbor District; and

WHEREAS, the acquisition of one U. S. Navy Wharf and supportive back-up land areas will enable the Oxnard Harbor District to provide for the orderly growth of the commercial port activities and concurrently upgrade such facilities at no cost to the taxpayers; and

WHEREAS, this Board of Harbor Commissioners of the Oxnard Harbor District is prepared to gradually upgrade the port facilities in order to make the port a more viable and efficient complex, not only during peacetime but in the event of a national emergency; and

WHEREAS, based on an engineering and economic feasibility report prepared for the District in February 1980, the Board of Harbor Commissioners has adopted a conceptual plan designated "Alternative F-3" as the foundation for implementing a harbor expansion program, a copy of which is attached hereto for reference purposes as Exhibit I;

NOW, THEREFORE, BE IT RESOLVED, that the Board of Harbor Commissioners of the Oxnard Harbor District hereby respectfully urges U. S. Senators and Congressmen from Calfiornia to initiate federal legislation authorizing the Oxnard Harbor District to reacquire U. S. Navy Wharf No. 2 and 22 acres of back-up land area at the Port of Hueneme (as indicated on Exhibit I) in order to provide for the continued orderly growth of commercial waterborne domestic and foreign commerce.

ADOPTED, SIGNED and APPROVED this 12th Day of March 1980.

RESOLUTION NO. 491

A RESOLUTION OF THE OXNARD HARBOR DISTRICT BOARD OF HARBOR COMMISSIONERS REQUESTING IMPLEMENTATION OF PHASE III OF THE PORT HUENEME HARBOR, CALIFORNIA PROJECT

WHEREAS, the Los Angeles District Corps of Engineers' Design Memorandum No. 1, General Design, Port Hueneme Harbor, California, dated February 1974, recommended a three phased plan (Phase I, II and III), and

WHEREAS, Phase I and Phase II of the plan have been constructed,

WHEREAS, Phase III of the recommended plan was deferred pending demonstration of need, and

WHEREAS, this project is authorized by the Congress as an Army Corps of Engineers project, and

WHEREAS, cargo movements through Port Hueneme Harbor have increased significantly since 1973, and

WHEREAS, the wharf facilities and land areas of the Oxnard Harbor District used for commercial cargo operations have now reached a maximum utilization factor, and

WHEREAS, the Board of Harbor Commissioners of the Oxnard Harbor District commissioned the preparation of an Engineering and Economic Feasibility Study for a new wharf and related land facilities, which study was completed February 1980, and

WHEREAS, based on such study, the Board of Harbor Commissioners of the Oxnard Harbor District unanimously agreed on pursuing a modified version of Phase III of the approved navigation project, known as Alternative "F-3", NOW, THEREFORE, BE IT RESOLVED, that the Oxnard Harbor District will meet local requirements for a modified version of Phase III of the recommended plan of improvement for lengthening Channel "A", and

BE IT FURTHER RESOLVED, that the Oxnard Harbor District hereby requests the Army Corps of Engineers to take all necessary actions to implement the completion of the recommended project.

ADOPTED, SIGNED and APPROVED, this 12th Day of May, 1980.

PORT OF HUENEME, OXNARD HARBOR DISTRICT

May 14, 1980

Gwynn A. Teague, Colonel, C.E.
District Engineer
Department of the Army
Los Angeles District, Corps of Engineers
Post Office Box 2711
Los Angeles, California 90053

Re: Port Hueneme Harbor Project

Dear Sir:

The Oxnard Harbor District Board of Harbor Commissioners recently adopted a conceptual plan for the orderly expansion of the Port of Hueneme. This conceptual plan was part of an Engineering and Economic Feasibility Study prepared for the District by the engineering firm of Moffatt and Nichol. The conceptual plan adopted is referred to as Alternate "F-3" (Exhibit 19C of the Study). A copy of the Moffatt and Nichol Study which includes Alternative "F-3" is enclosed as a matter for your information and review.

The Alternative "F-3" conceptual plan involves a modified version of Phase III of the Port Hueneme Harbor Project previously approved by the Congress. It consists of widening Channel "A" by removing U. S. Navy Wharf #2 and a portion of U. S. Navy Wharf #3 and dredging and setting back a new pierhead line approximately 120 feet north of existing Navy Wharf #2. A new wharf would then be proposed for construction totalling approximately between 1,350 feet to 1,600 feet. Channel "A" would then contain sufficient width to permit a safer navigational operation.

Since this conceptual plan requires access to U. S. Navy property, the Board of Harbor Commissioners has submitted a proposal to the U. S. Navy for their consideration. A meeting with the Navy officials is scheduled for early next month.

The Board of Harbor Commissioners recognizes the lengthy permitting process entailed in starting and completing a project such as is proposed. It also recognizes the Corps of Army Engineers must undertake a study of the proposed project to insure its viability. Accordingly, and in order to commence the initial preliminary work involved, the Board adopted Resolution No. 491 which is enclosed herewith for your consideration.

Upon your review of the enclosures, we stand ready to meet with you to discuss any aspect of the proposed navigation project for the Port of Hueneme.

Very truly yours,

Edward J. Millan

EDWARD J. MILLAN
General Manager

RESOLUTION NO. 569

RESOLUTION OF THE BOARD OF HARBOR COMMISSIONERS APPROVING THE PRICE FOR NAVY PROPERTY AND EXPRESSING INTENT TO ISSUE REVENUE BONDS

WHEREAS, Public Law 98-115 directed the U.S. Navy to sell certain property to the Oxnard Harbor District at the fair market value of such property; and,

WHEREAS, the Oxnard Harbor District after lengthy negotiations has now arrived at a tentative agreement with the U.S. Navy on the price to be paid for such property; and,

WHEREAS, the Oxnard Harbor District intends to finance the Navy property acquisition and related improvements thereto with Revenue Bonds;

NOW, THEREFORE, BE IT RESOLVED that

1. The Oxnard Harbor District does hereby approve a purchase price of $7,000,000 (seven million dollars) for the reacquisition of an approximate 19 acre parcel of land and property thereon.

2. The Oxnard Harbor District expresses its intent to issue at one time or from time to time, a principal amount of bonds not to exceed $20,000,000 (twenty million dollars) (the "initial cap bonds") of the initial cap

distribution for the finance of the expansion of port facilities, consisting of the reacquisition of the approximately 19 acres of land and a 650' wharf from the U.S. Navy and the extension of the wharf for deep draft vessels.

3. Such initial cap bonds shall be issued subject to the conditions that, (1) the District and the purchaser of the initial cap bonds shall have first agreed to mutually acceptable terms for the bonds and for the sale and delivery thereof and, (2) all requisite governmental approvals shall have been first obtained.

4. The Oxnard Harbor District intends that this resolution shall constitute "some other similar action" toward the issuance of bonds within the meaning of Section 1.103-8(a)(5) of the Treasury Regulations promulgated under Section 103 of the Internal Revenue Code of 1954, as amended.

ADOPTED, SIGNED and APPROVED this 30th day of August 1984

RESOLUTION NO. 572

RESOLUTION OF THE BOARD OF HARBOR COMMISSIONERS ACCEPTING A QUITCLAIM DEED AND TEMPORARY EASEMENT DEED GRANTING AN EASEMENT, DND AUTHORIZING PAYMENT OF $7,000,000.00

Pursuant to the written Agreement for Purchase of Real Property between the Oxnard Harbor District and the United States of America, the Board of Harbor Commissioners of the Oxnard Harbor District does hereby resolve, determine and order that:

1. The quitclaim deed from the United States of America to the Oxnard Harbor District, a copy of which is attached to this Resolution as Exhibit A is accepted.

2. The grant of a temporary easement from the United States of America to the Oxnard Harbor District, a copy of which is attached to this Resolution as Exhibit B, is accepted.

3. The grant of easement from the Oxnard Harbor District to the United States of America in the form of Exhibit C attached hereto and incorporated herein by reference is approved. The president and secretary of the Oxnard Harbor District are authorized and directed to execute the grant of easement on behalf of the Oxnard Harbor District and to cause it to be delivered to the United States of America.

4. The payment of $7,000,000.00 by the Oxnard Harbor District to the United States of America in exchange for the quitclaim deed mentioned in paragraph 1 of this Resolution is approved. The payment shall be made by certified check in accordance with paragrph 3 of the written Agreement for Purchase of Real Property between the Oxnard Harbor District and the United States of America.

Adopted this 10th day of December 1984.

QUITCLAIM DEED

FOR THE VALUABLE CONSIDERATION of SEVEN MILLION DOLLARS ($7,000,000.00), receipt of which is hereby acknowledged, the UNITED STATES OF AMERICA, acting by and through the Department of the Navy, Western Division, Naval Facilities Engineering Command, hereinafter called GOVERNMENT, under and pursuant to the power and authority specified in Section 812 of Public Law 98-115 of October 11, 1983, hereby remises, releases and quitclaims to the OXNARD HARBOR DISTRICT, a political subdivision of the State of California, hereinafter called the DISTRICT, all of the Government's right, title and interest in and to that certain real property situated at the Naval Construction Battalion Center, Port Hueneme, California described as follows:

THAT PORTION OF SUBDIVISION 87, RANCHO EL RIO DE SANTA CLARA O'LA COLONIA IN THE CITY OF PORT HUENEME, COUNTY OF VENTURA, STATE OF CALIFORNIA, ACCORDING TO THE MAP RECORDED IN BOOK 3, PAGE 13 OF MISCELLANEOUS RECORDS, IN THE OFFICE OF THE COUNTY RECORDER OF SAID COUNTY,

BEGINNING AT THE NORTHWEST CORNER OF THE TOWN OF HUENEME, ACCORDING TO THE MAP RECORDED IN BOOK 1, PAGE 179 OF MISCELLANEOUS RECORDS, IN THE OFFICE OF THE VENTURA COUNTY RECORDER, SAID CORNER BEING MARKED BY A 2-INCH IRON PIPE WITH BRASS TAG L.S. 2982 AS SHOWN ON A MAP RECORDED IN BOOK 41, PAGE 52 OF RECORDS.OF SURVEY IN THE VENTURA COUNTY RECORDER'S OFFICE, THIS BEING THE TRUE POINT OF BEGINNING PROCEED NORTH 89° 52' 38" EAST 374.00 FEET, ALONG THE NORTH LINEOF SAID TOWN OF HUENEME AS SHOWN, ON SAID RECORD OF SURVEY, TO A 2-INCH IRON PIPE WITH BRASS TAG L.S. 2982 HEREINAFTER REFERRED TO A POINT "A"; THENCE LEAVING SAID NORTH LINE, NORTH 45° 07' 22" WEST 35.36 FEET TO A 2-INCH IRON PIPE WITH BRASS TAG L.S. 2982; THENCE SOUTH 89° 52' 38" WEST 350.18 FEET TO A 2-INCH IRON PIPE WITH BRASS TAG L.S. 2982 HEREINAFTER REFERRED TO A POINT "K"; THENCE NORTH 00° 13' 00" WEST 24.44 FEET TO A POINT HEREINAFTER REFERRED TO AS POINT "B"; THENCE CONTINUING NORTH 00° 13' 00" WEST 472.08 FEET TO A 2-INCH IRON PIPE WITH BRASS TAG L.S. 2982 (TO A POINT HEREINAFTER REFERRED TO AS POINT "X"); THENCE SOUTH 89° 47' 00" WEST 220.73 FEET TO A POINT HEREINAFTER REFERRED TO AS POINT "C"; THENCE CONTINUING SOUTH 89° 47' 00" WEST 38.13 FEET TO A 2-INCH IRON PIPE WITH BRASS TAG L.S. 2982; THENCE SOUTH 00° 13' 00" EAST 441.52 FEET TO A 2-INCH IRON PIPE WITH BRASS TAG L.S. 2982; THENCE SOUTH 25° 10' 36" WEST 162.12 FEET TO A POINT HEREINAFTER REFERRED TO AS POINT "D"; THENCE CONTINUING SOUTH 25° 10' 36" WEST 261.96 FEET TO A 2-INCH IRON PIPE WITH BRASS TAG L.S. 2982; THENCE SOUTH 00° 13' 00" EAST 280.00 FEET TO A 2-INCH IRON PIPE WITH BRASS TAG L.S. 2982; THENCE NORTH 89° 47' 00" EAST 30.00 FEET TO A 2-INCH IRON PIPE WITH BRASS TAG L.S. 2982; THENCE SOUTH 00° 13' 00" EAST 215.55 FEET TO A 2-INCH IRON PIPE WITH BRASS TAG L.S. 2982; THENCE SOUTH 89° 47' 00" WEST 30.00 FEET TO A POINT LYING SOUTH 89° 47' 00" WEST 1.00 FEET FROM A COPPERWELD SURVEY MARKER WITH PUNCHMARK; THENCE SOUTH 00° 13" 00" EAST 70.00 FEET TO A POINT LYING SOUTH 89° 47' 00" WEST 1.00 FEET FROM A COPPERWELD SURVEY MARKER WITH PUNCHMARK; THENCE SOUTH 89° 47' 00" WEST 140.00 FEET TO A 2-INCH IRON PIPE WITH BRASS TAG L.S. 2982; THENCE NORTH 00° 13' 00" WEST 5.00 FEET TO A 2-INCH IRON PIPE WITH BRASS TAG L.S. 2982; THENCE SOUTH 89° 47' 00" WEST 140.00 FEET TO A 2-INCH IRON PIPE WITH BRASS TAG L.S. 2982; THENCE SOUTH 46° 29' 32" WEST 172.43 FEET TO A BRASS TAG L.S. 2982 SET IN LEAD, HEREINAFTER REFERRED TO A POINT "E"; THENCE SOUTH 00° 00' 35" EAST 69.00 FEET TO A POINT 9.00 FEET SOUTH OF A BRASS TAG L.S. 2982 SET IN LEAD; THENCE SOUTH 89° 59' 25" WEST 72.00 FEET TO A POINT 9.00 FEET SOUTH OF A BRASS TAG L.S. 2982 SET IN LEAD; THENCE SOUTH 00° 03' 07" EAST 263.82 FEET, MORE OR LESS, TO A POINT ON THE NORTH LINE OF THE PARCEL DESCRIBED IN THAT CERTAIN QUITCLAIM DEED RECORDED IN BOOK 2103, PAGE 143 OF OFFICIAL RECORDS IN THE VENTURA COUNTY RECORDER'S OFFICE; THENCE

ALONG SAID NORTH LINE THE FOLLOWING THREE COURSES:
NORTH 89° 56' 53" EAST 609.59 FEET,
SOUTH 00° 03' 07" EAST 13.20 FEET, AND EASTERLY ALONG A
NON-TANGENT CURVE, THE RADIUS POINT OF WHICH BEARS
SOUTH 13° 50' 50" WEST 360.21 FEET THROUGH A CENTRAL
ANGLE OF 18° 08' 14", AN ARC DISTANCE OF 114.03 FEET,
(CHORD SOUTH 67° 05' 03" EAST 113.55 FEET;)
THENCE ALONG THE SOUTH LINE OF THE PARCEL DESCRIBED IN THAT
CERTAIN GRANT DEED RECORDED IN BOOK 4235, PAGE 562 OF
OFFICIAL RECORDS IN THE VENTURA COUNTY RECORDER'S OFFICE,
NORTH 89° 46' 07" EAST 93.29 FEET TO THE SOUTHEAST CORNER
THEREOF; THENCE ALONG THE EAST LINE OF SAID PARCEL
NORTH 00° 13' 53" WEST 221.70 FEET TO A POINT ON THE SOUTH LINE
OF THE PARCEL DESCRIBED IN THAT CERTAIN QUITCLAIM DEED RECORDED
IN BOOK 5335, PAGE 848 OF OFFICIAL RECORDS IN THE VENTURA COUNTY
RECORDER'S OFFICE; THENCE ALONG SAID SOUTH LINE
NORTH 89° 54' 47" EAST 58.17 FEET TO THE SOUTHEAST CORNER
THEREOF, SAID CORNER LYING SOUTH 00° 13' 00" EAST 51.91 FEET
FROM A 2-INCH IRON PIPE WITH BRASS TAG L.S. 2982 AS SHOWN ON MAP
RECORDED IN BOOK 41, PAGE 52 OF RECORDS OF SURVEY IN THE VENTURA
COUNTY RECORDER'S OFFICE; THENCE ALONG THE EAST LINE OF SAID
PARCEL, NORTH 00° 13' 00" WEST 109.50 FEET TO THE NORTHEAST
CORNER THEREOF, SAID POINT BEING THE SOUTHWEST CORNER OF THE
PARCEL DESCRIBED IN THAT CERTAIN QUITCLAIM DEED RECORDED IN BOOK
5335, PAGE 837 OF OFFICIAL RECORDS IN THE VENTURA COUNTY
RECORDER'S OFFICE; THENCE ALONG THE WEST LINE OF SAID PARCEL
NORTH 00° 13' 00" WEST 151.13 FEET TO A POINT HEREINAFTER
REFERRED TO AS POINT "F"; THENCE CONTINUING NORTH 00° 13' 00" WEST
5.00 FEET TO A POINT HEREINAFTER REFERRED TO A POINT "G";
THENCE CONTINUING NORTH 00° 13' 00" WEST 99.95 FEET TO THE
NORTHWEST CORNER OF AFORESAID PARCEL; THENCE NORTH 89° 54' 47" EAST
55.00 FEET TO THE NORTHEAST CORNER OF SAID PARCEL, SAID CORNER
BEING MARKED BY A 2-INCH IRON PIPE WITH BRASS TAG L.S. 2982 ON
THE WEST LINE OF AFORESAID TOWN OF HUENEME AND AS SHOWN ON THE
AFOREMENTIONED RECORD OF SURVEY; THENCE ALONG SAID WEST LINE
NORTH 00° 13' 00" WEST, 27.90 FEET TO A POINT HEREINAFTER
REFERRED TO AS POINT "H"; THENCE CONTINUING
NORTH 00° 13' 00" WEST, 759.06 FEET TO THE TRUE POINT OF
BEGINNING. ABOVE PARCEL CONTAINS 19.82 ACRES, MORE OR LESS.

SUBJECT TO any and all outstanding easements for streets, utility systems, rights of way, railroads, pipelines, and/or covenants, restrictions, reservations, conditions, and agreements which now exist affecting the above-described property.

RESERVING to the GOVERNMENT and its assigns the following:

1. A covenant running with the remaining land of the GOVERNMENT to jointly use the existing storm drain systems on the conveyed land and to afford sheet flow drainage from said remaining land to the storm drain systems. In the event that the DISTRICT at any future date elects to alter the drainage flow to preclude drainage from GOVERNMENT's remaining land to said storm drain systems, then the DISTRICT shall, at no cost to the GOVERNMENT, adjust the grade and surfacing of the GOVERNMENT's remaining land and/or provide an alternate storm drain system acceptable to the GOVERNMENT. Said covenant area is identified as "Drainage Easement Covenant" on the Map marked Exhibit "A" attached hereto and made a part hereof.

2. An easement for storm drainage and utility purposes described as follows:

BEGINNING AT POINT "E" HERINBEFORE DESCRIBED,
THENCE SOUTH 00° 00' 35" EAST 61.00 FEET; THENCE
NORTH 89° 59' 25" EAST 4.00 FEET; THENCE
NORTH 00° 00' 35" WEST 64.80 FEET; THENCE
SOUTH 46° 29' 32" WEST 5.51 FEET TO THE POINT OF BEGINNING.

3. Easements for existing water pipelines described as follows:

A STRIP OF LAND, 20 FEET IN WIDTH, LYING 10 FEET EACH SIDE OF THE FOLLOWING DESCRIBED CENTERLINE:

BEGINNING AT POINT "C" HEREINBEFORE DESCRIBED,
THENCE SOUTH 00° 15' 00" EAST 1103.24 FEET TO A POINT
HEREINAFTER REFERRED TO AS POINT "J"; THENCE CONTINUING
SOUTH 00° 15' 00" EAST 319.81 FEET; THENCE
SOUTH 88° 00' 00" EAST 64.97 FEET; THENCE
NORTH 00° 09' 00" WEST 12.37 FEET; THENCE
NORTH 89° 51' 00" EAST 101.11 FEET TO POINT "F" HEREINBEFORE DESCRIBED.

A STRIP OF LAND, 20 FEET IN WIDTH, LYING 10 FEET EACH SIDE OF THE FOLLOWING DESCRIBED CENTERLINE:

BEGINNING AT POINT "J" HEREINBEFORE DESCRIBED
FOR WATER PIPELINE, THENCE
NORTH 89° 45' 00" EAST 9.71 FEET, THENCE
SOUTH 46° 25' 00" EAST 203.81 FEET, THENCE
SOUTH 00° 13' 00" EAST 164.00 FEET, THENCE
NORTH 89° 51' 00" EAST 9.42 FEET TO POINT "G" HEREINBEFORE DESCRIBED.

4. An easement for power and communications lines described as follows:

A STRIP OF LAND, 20 FEET IN WIDTH, LYING 10 FEET EACH SIDE OF THE FOLLOWING DESCRIBED CENTERLINE:

BEGINNING AT POINT "B", HEREINBEFORE DESCRIBED,
THENCE NORTH 89° 01' 46" WEST 58.42 FEET; THENCE
SOUTH 00° 22' 00" EAST 808.00 FEET; THENCE
SOUTH 88° 30' 00" EAST 57.46 FEET TO POINT "H" HEREINBEFORE DESCRIBED.

5. An easement for fence and fence maintenance purposes as follows:

A strip of land 1.00 foot wide, lying Southerly and Easterly of and perpendicular to and parallel with the following described property line of the HEREINBEFORE described property: BEGINNING at point "X", thence

South 89° 47' 00" West	258.86 FEET
South 0° 13' 00" East	441.52 FEET
South 25° 10' 36" West	424.08 FEET
South 0° 13' 00" East	280.00 FEET
North 89° 47' 00" East	30.00 FEET
South 0° 13' 00" East	215.55 FEET
South 89° 47' 00" West	30.00 FEET
South 0° 13' 00" East	70.00 FEET
South 89° 47' 00" West	140.00 FEET
North 0° 13' 00" West	5.00 FEET
South 89° 47' 00" West	140.00 FEET
South 46° 29' 32" West	172.43 FEET TO POINT "E"

Each of these reserved easements shall terminate at such time as the GOVERNMENT or its assigns no longer requires the easement for the use or uses for which the easements are reserved.

In the event of a war or a national emergency declared by the Congress or a national emergency declared by the President, and upon a determination by the Secretary of Defense that the property hereby conveyed is necessary or would be useful for military or other national defense purposes, the United States shall have the right, upon payment to the DISTRICT of just compensation, to reenter upon the property and use the property or any part of it, including any and all improvements made thereon, for the duration of the war or emergency plus six months.

IN WITNESS WHEREOF, the GOVERNMENT has caused this quitclaim deed to be executed in its name and on its behalf by its duly authorized agent this 27th day of November, 1984.

UNITED STATES OF AMERICA

By: Warren K. Branscum
WARREN K. BRANSCUM
Director, Real Estate Division
Western Division
Naval Facilities Engineering Command
For and on behalf of the
United States of America,
Department of the Navy

State of California)
) SS
County of San Mateo)

On this 27th day of November in the year 1984, before me, Beverly J. Freitas, a Notary Public in and for said County and State, personally appeared WARREN K. BRANSCUM, known to me to be the Director, Real Estate Division, whose name is subscribed to the within instrument and acknowledge that he executed the same on behalf of the United States of America in accordance with authority granted to him.

BEVERLY J. FREITAS
My Comm. Expires Feb. 7, 1986

Beverly J. Freitas
Notary Public in and for said
County and State

PORT OF HUENEME, OXNARD HARBOR DISTRICT

August 15, 1985

Colonel Dennis F. Butler
U.S. Army Corps of Engineers
Post Office Box 2711
Los Angeles, CA 90053-2325

Dear Colonel Butler:

The Oxnard Harbor District and their prospective tenants are excited about the prospect of expanding the port, in whatever capacity that is recommended by the Corps design documents. The 20 foot depth indicated in the draft report would greatly improve the congestion problem with the oil supply vessels, freeing valuable wharf space for cargo transfer to deep draft vessels. We wholeheartedly support the project and are anxious to begin construction.

After reviewing the program and needs for the harbor, we have concluded that construction for the harbor expansion project must coincide with planned construction by the port district beginning in early 1986. We have begun the procurement of over $15 million in bonds this year to support the project. Consultants are preparing the necessary design and evironmental documents to be completed in time for 1985 construction. Delays in this time frame will detrimentally affect negotiations with shipping companies and future plans for operations.

Very truly yours,

Anthony J. Taormina
Executive Director

OCEANSIDE, CA—SAND BYPASS SYSTEM

STATEMENT OF TED MARIONCELLI, MEMBER, CITY COUNCIL, AND HARBOR DIRECTOR, CITY OF OCEANSIDE, CA

Mr. LANGNER. We also have, Mr. Chairman, the Oceanside Small Craft Harbor District, represented by Oceanside Mayor, Lawrence Bagley; Jim Manues, harbor superintendent; and Ted Marioncelli, harbor director, who has a statement.

Mr. MARIONCELLI. Mr. Chairman, my name is Ted Marioncelli. I am a city councilman as well as the harbor director of the city of Oceanside. With me also are the mayor and our harbor superintendent, Jim Manues. The mayor will be offering additional testimony on other flood control projects in the Oceanside area.

The city of Oceanside does appreciate the continued support for the Oceanside bypass system, as well as the maintenance dredging that is necessary to start that project. Both those projects are included in the President's budget.

In addition, we have included written testimony and submitted written testimony today on an additional project regarding some safety improvements to our harbor. You will be receiving those. Thank you for your time.

[The statement follows:]

STATEMENT OF THE OCEANSIDE SMALL CRAFT HARBOR DISTRICT

The Oceanside Small Craft Harbor District urges your support of funding for maintenance dredging of the Oceanside Harbor entrance. This project is required to alleviate inner-harbor surge generated from shoaling at the harbor entrance and in preparation for the testing/operation of the Oceanside Experimental Sand Bypass System.

Small craft harbors such as ours (45 commercial vessels and 874 recreational boating vessels) rely heavily upon Federal support for maintenance dredging. Without this support, many of the harbors of refuge which cannot support their dredging requirements, such as Oceanside, would be jeopardized.

I urge your support for continued Federal funding of maintenance dredging projects for small craft harbors and harbors of refuge.

CITY OF OCEANSIDE

The City of Oceanside is grateful for the Committee's continuing support for the Oceanside Sand Bypass System. The Administration has proposed an appropriation of $1,918,000 in FY '87 for operation and monitoring of the bypass system.

The technology developed at Oceanside Harbor has the potential for revolutionizing harbor maintenance procedures and reducing federal dredging costs nationwide.

The City of Oceanside is proud to continue in its partnership with the Federal government in implementing this important project.

Thank you.

OCEANSIDE HARBOR DISTRICT

Dear Chairman and Members:

The Oceanside Harbor District, City of Oceanside, California respectfully requests that the United States Congress direct the Army Corps of Engineers, Civil Works Division, to complete the Navigation Study in progress for this harbor, and to appropriate funding in the amount of $110,000 for Fiscal Year 1987.

This study was approved by resolution of the Senate in 1967 and by the House in 1969, revised in 1970. However, funding for completion of the study has not been provided since 1982 and work was suspended with the issuance of a Progress Report by the Los Angeles District, Corps of Engineers, in June 1983.

Resumption and completion of the feasibility study is supported by the California Marine Affairs and Navigation Conference (C-MANC) on the basis of testimony that there is a critical need to protect property and prevent injury and loss of life resulting from design defects in this joint military/civilian harbor that serves as a harbor of refuge halfway between Los Angeles and the Port of San Diego. This is a facility that provides dockage for 45 commercial boats, the U.S. Coastguard Cutter Pt. Hobart, some 800 recreational craft and shares a harbor entrance with the adjacent Del Mar Boat Basin at the United States Marine Corps Base, Camp Pendleton .

A severe storm wave and surge problem within the harbor breakwater, caused by inadequate design of both military and civilian works, has resulted in 134 boating accidents within the harbor entrance, 49 serious injuries and 10 deaths, in additional to $986,638.00 in estimated damage to vessels. This is in addition to severe and continuous property damage to harbor facilities and vessels docked within the harbor.

Study of alternative designs for breakwater and jetties during the Navigation Study so far indicate that certain modifications will correct the design deficiencies of the civil and military facilities and will be cost effective in protecting against future damage, injury and loss of life.

We understand that requests for federal funding for recreational harbors have received a low priority by both Congress and the Administration due to increasing federal deficits during the past several years. Therefore, we are requesting that the Corps of Engineers narrow the Scope of Work during the completion of this feasibility study to include only the proposed design modifications and environmental evaluations for the purpose of protecting life and property, and that other aspects of the study, including the possibility of harbor expansion, be excluded at this time.

This request is submitted on behalf of the Oceanside Harbor District and its governing body, the City Council of the City of Oceanside, sitting as the Harbor District Board of Directors.

1.0 SYNOPSIS

1.1 Congress is asked to direct the U.S. Army Corps of Engineers to resume and complete a Navigation Project feasibility study for certain breakwater and jetty works at the Del Mar Boat Basin/Oceanside Harbor, Camp Pendleton/Oceanside, California. These works would be designed to correct a critical storm wave and surge problem, compounded by shoaling at the mouth of the harbor, that has caused the loss of 10 lives and 46 serious injuries in 134 boating accidents within the harbor breakwater, as well as millions of dollars in property damage since the harbor was completed in 1963. A federal appropriation of $110,000 for FY87 would be required to complete the study.

1.2 Oceanside Harbor is a relatively small harbor of refuge located 80 miles downcoast of Los Angeles, midway to the Port of San Diego. It shares a common breakwater and navigation entrance with the Del Mar Boat Basin, a facility that serves landing craft and other vessels of the United States Marine Corps, Camp Pendleton. That is to the north and adjacent to the civilian harbor. In addition to some 800 recreational craft, the Oceanside Harbor provides dockage to about 45 commercial fishing and sports fishing boats and the United States Coast Guard Cutter Point Hobart.

1.3 It is the contention of the Oceanside Habor District and the City of Oceanside at this time that the Navigation Project feasibility study, undertaken by the Corps of Engineers as a result of Congressional authorization in 1969, ought to be completed so that necessary modifications to the military breakwater and the related civilian harbor jetties can be made to correct the dangerous condition of the entrance to the joint military/civilian harbor.

1.4 Present configuration of these facilities allows southwesterly ocean swells and storm waves to surge unbroken into the harbor entrance, at times creating extremely hazardous breakers in the mouth of the harbor, as well as damage to harbor piers, vessels docked in the harbor and other facilities. It is estimated that cost of the breakwater and jetty modifications would be about $5 million and that benefits in damage savings would far exceed that amount over the life of the project. Estimated cost to vessels in boating accidents since 1963 is $986,638. Costs for repair and replacement of harbor docks and facilities from storm and surge damage is $1.8 million. There is no way to estimate the costs in terms of loss of life and injuries.

2.0 PROJECT HISTORY

2.1 Numerous studies by both the City of Oceanside and the LosAngeles District, Corps of Engineers, have been undertaken since the Department of the Navy constructed the Del Mar Boat Basin, along with accompanying breakwater and jetties, as a military installation in 1942, adjacent to the City of Oceanside. These studies were done initially in response to environmental and economic impacts caused by the military installation, but have included the implementation of recommendations for a civilian small craft harbor to help justify cost/benefit criteria.

2.2 By 1944 it had become clear that the north to south littoral drift that predominates along the coastline at this point created shoals in the military basin entrance channel, and that the military breakwater and jetties resulted in downcoast erosion of the Oceanside Beach. An initial study by the City in 1949 recommended that a small craft harbor be constructed and that its attendant jetties and groins be employed as a means of stabilizing downcoast beaches.

2.3 In 1958, the Los Angeles District, Corps of Engineers, issued an interim report confirming that the construction of a civilian harbor adjacent to the Del Mar Boat Basin at Camp Pendleton would benefit downcoast beaches and would not adversely impact on military uses. In 1963, the Corps of Engineers issued a survey report that the civilian small craft harbor conformed to Corps standards and would have been justified as a federal project. Federal maintenance was recommended.

2.4 The City of Oceanside in 1962 and 1963 created an inland recreational harbor and dredged a harbor entrance channel to the south of the military harbor and jetty. This allowed 3.8 million cubic yards of material to be dredged and placed on the downcoast beach in an attempt to restore it to pre-1942 configuration. The attempt by the civilian jurisdiction to assist in rectifying adverse impacts created by the adjacent military installation, however, was of limited success. By 1968, the dredged material was again lost to erosion.

2.5 In 1967 and 1969, the Congress authorized additional studies by the Corps of Engineers to attempt to solve the downcoast erosion and accompanying shoaling at the mouth of the joint military/civilian harbor. Several studies have been undertaken in response. Studies have focused on beach stabilization south of the existing harbor and on methods for transporting sand around the harbor entrance in order to reduce the shoaling in the harbor, as well as the potential for expanding the recreational harbor facilities as a result of certain jetty and breakwater modifications. A "Progress Report on Navigation Study" was issued by the Los Angeles District, Corps of Engineers, in June 1983, compiling work done to that date.

2.6 Under Administration policy, placing recreational harbors at a negative priority for federal funding of Corps of Engineers civil works, the last Congressional appropriation for the Oceanside Harbor Navigation Study was made in 1982. About $680,000 had been spent on the study to that date, when it was estimated another $110,000 would be required to complete the study and to prepare the necessary Environmental Impact Statement on recommended modifications to the existing breakwater and jetties.

2.7 In the meantime, work has begun by the Corps of Engineers, under Congressional authorization of an Operation Maintenance Project entitled, "Oceanside Experimental Sand Bypass System." An appropriation of $1.9 million was made in fiscal 1986 for this purpose, and work is in progress. This project calls for installation of a continuously operating system of jet pumps and fluidizers to intercept sediment entering the harbor and to pump it via submerged pipes for constant nourishment to downcoast beaches, in accordance with a report and recommendation by the Los Angeles District in 1982.

3.0 HARBOR DESIGN PROBLEM

3.1 Studies by military and civilian jurisdictions to determine if harbor facilities should be modified have focused on mitigating environmental and economic loss resulting from the original design flaws of the breakwater and jetties for the military Del Mar Boat Basin. Construction of the civilian harbor itself was justified partly by the perceived need for dredged material to correct downcoast beach erosion.

3.2 Planning studies authorized by Congress in 1967 and 1969, however, included potential expansion of the recreational harbor as a means of providing a beneficial cost ratio in support of modification of the breakwater and jetties, as well as to meet a growing public demand for recreational boating facilities. The potential of expanding the civilian harbor within the existing breakwater was made possible when the U.S. Marine Corps, which has jurisdiction over the harbor's turning basin area, declared that this area would not be needed for military operations and could be used for civilian harbor expansion. The studies established that Oceanside Harbor needed to be expanded in order to become self-supporting, and that there was substantial demand for expanded facilities. However, the Oceanside Harbor District is not seeking expansion of its facilities at this time.

3.3 Shoaling of the entrance channel and related wave surge problems also were well documented in the planning studies. The downshore littoral drift generally carries silt and sand from north to south. However, in certain seasons the reverse is true. It is estimated that some 200,000 cubic yards of material per year is trapped in the harbor entrance, with much higher quantities moving north or south, depending on the season. Periodic maintenance dredging is required and its costs are shared by the Department of the Navy and the Corps of Engineers. The FY 87 President's Budget appropriated $480,000 to the Corps for this purpose. Depths in the harbor entrance change radically in response to changes in sediment transport, fluctuating as much as 5 feet in a single day, causing navigation problems and creating areas too shallow for sailboats with fixed keels and for the larger commercial boats.

3.4 Ocean wave action at this location is dominated by northern hemisphere swells from late fall to spring and by southern hemisphere swells during other periods. Waves generally approach the shore from the southwest during both wave seasons. The harbor entrance is sheltered from waves by features of the coastline and by offshore islands which block deepwater waves from the north and northwest, but is not sheltered from waves out of the south or southwest. Waves of from 6 to 10 feet are not uncommon in the area, and the harbor has an excessive surge problem during periods of heavy surf. When this problem occurs, the entrance, which is open to the southwest, becomes hazardous and boat slips in the harbor can be damaged. Surge may reach a height of 6 to 8 feet within the harbor entrance during winter storms. Shoaling in the harbor entrance complicates this situation by causing breakers to form as the waves cross areas of shallow water. Even experienced sailors and commercial boatmen have been swamped or overturned within the harbor breakwater under this circumstance, resulting in injury and loss of life as their craft are smashed against the jetty.

4.0 HARBOR DESIGN SOLUTIONS

4.1 Alternative design solutions to the problems surrounding the Oceanside Harbor have been under study in a multi-stage process over a number of years. Among the many options considered, nine candidate plans were summarized in the 1983

Navigation Study Progress Report. Evaluations were based in part on preliminary results of Waterways Experiment Station model tests of various breakwater and jetty modifications on their ability to reduce shoaling and surge and storm wave damage. The review process also included economic feasibility and review by local interests at a public meeting.

4.2 Of the nine plans reviewed, the last (#9) appears to merit serious consideration for its potential of mitigating the safety hazards and damage problems that result from surge and storm wave action within the harbor breakwater. Its configuration also provides a base for the potential expansion of the harbor at some date in the future, although the Oceanside Harbor District and the City of Oceanside at this time wish to focus entirely on the safety and damage problems that result from existing defective design.

4.3 Key features of plan (#9) include a 300-foot extension of the north breakwater, a 250-foot stub groin on the south jetty, and removal of the entire north groin, which is submerged and constitutes a navigation hazard. A feature which would be omitted from the requested study at this time is the proposed 2,100 foot inner harbor breakwater which would have as its purpose the formation of an inner sheltered basin for the expansion of recreational facilities. One design advantage deleted by this omission will be the desired separation of military and civilian craft within the harbor, however, this objective is not eliminated and can be achieved at a later date, under the modified plan (#9).

5.0 WORK TO BE DONE

5.1 Considerable work and expense have gone into the studies that are summarized in the 1983 Navigation Study Progress Report. The suggested modifications to the breakwater and jetty contained in the modified plan (#9) are urgently needed in order to protect both civil and military interests at the joint use harbor. Loss of life and injury has impacted both civilians and military personnel who use the harbor facilities. It is therefore the contention of the Oceanside Harbor District and the City of Oceanside that the feasibility study should be completed as soon as possible so that necessary design modifications can be made to both military and civilian facilities that constitute the protection of the joint use harbor.

5.2 Work remaining to be completed under the feasibility study phase of this proposed Navigation project is minimal. It includes confirmation and updating of existing studies, additional environmental analysis and a full environmental assessment, and presentation of findings to the public and to appropriate local, state and federal agencies for comment. We believe this work can be accomplished during FY87 within the recommended appropriation of $110,000.

6.0 APPENDIX

6.1 INJURIES AND DEATHS
CASE HISTORIES AT OCEANSIDE HARBOR

6.1.1 On November 21, 1983, two young Marines from Camp Pendleton set out on a fishing expedition just after dusk. Cpl. Billie Joe Parrish, 22, had just purchased a 10-foot outboard skiff. His companion Stewart D. Poulsen, told officers that they went fishing off Camp

Del Mar bouy #3 inside the harbor breakwater. The fish were biting but they had run out of bait and motored across the harbor to the Cape Cod area on the south of the harbor and purchased more bait. On their return toward the entrance of the harbor, their boat was hit by waves and swamped. Both men tried to swim for the nearby rock jetty of the outer breakwater. Poulsen made it and crawled along the breakwater between breaking waves to get help. Parrish never made it to the rocks and drowned. His body was recovered two weeks later.

6.1.2 On Sunday, February 13, 1983 at about 3:30 a.m., the 42-foot commercial fishing boat, The City of Oceanside, began its regular run for live bait. It had a crew of four experienced boatmen. Chester Dolan was at the helm. There was a small craft warning posted. Waves were breaking around six feet and not considered dangerous for this size boat. The City of Oceanside was valued at $75,000 and had about $15,000 worth of gear and nets on board. As Skipper Dolan turned the vessel north at the harbor mouth, they encountered a heavy set of waves. The concerned crew included Howard Schultz, 51, David Dreyer and Fred Hatfield. Crewman Schultz noticed that the large fishing net at the aft of the vessel was in danger of being washed overboard by the waves. Schultz went to secure the net. He was hit by a large wave and both he and the net were washed overboard. The other crewmen, in a desperate struggle with the elements and net, finally rescued Schultz who was entangled in the net. They pulled him into the boat but the net fouled the engine propeller, killing the power. The boat was helpless against the pounding surf. Within a few minutes, the boat was pounded into the south jetty. It was breaking up fast. The crew members, Skipper Dolan, Hatfield and Dreyer, decided to abandon ship anu successfully jumped to the jetty rocks. Schultz, however, yelled that he couldn't make it, apparently weakened by his ordeal of being swept overboard earlier. A few seconds later, the boat was pounded to pieces by the heavy surf and Schultz was killed. His body was recovered a short time later by emergency personnel from a nearby Coast Guard Station.

6.1.3 An experienced sailboat racing crew lost one of its members in a similar accident in the harbor entrance November 30, 1985. At about 3 p.m., the 30-foot sailboat, "Pudmuckle" was returning from a day of racing in outer waters. The crew included the Skipper Larry Long, crewmembers Frank Luchsinger, Ann Marie Smith, Doug Ross, George Spitzenfeil and R. Daniel Kuntz. (Kuntz had been washed overboard in 1983 two hours after the fishing boat accident that killed Schultz. Kuntz was rescued and the crew saved the ship in that incident. But in the "Pudmuckle" case, the story ended tragically.)

As the sailboat entered the harbor entrance, heavy surf hit the vessel stern. One wave knocked Skipper Long into the water. Kuntz and Miss Smith were at the helm. The vessel broached and came about facing the wind. It was hit by another large wave, and the rudder broke under the pressure. Another wave pounded the boat onto the rocks, bow first. The crew scrambled to the jetty rocks. Miss Smith, Kuntz, Spitzenfeil and Ross were able to jump to safety but Luchsinger got caught in life lines. He suffered severe injuries as the boat was being pounded to pieces on the rocks. He was rescued but died a short time later of severe trauma to the chest. Skipper Long was rescued.

6.2 STORM DAMAGE COSTS

The type of floating dock system installed in Oceanside harbor normally has a life span of from 15 to 20 years. Installation of these new concrete floats with thru-rods has made a great improvement and cost reduction, but until the harbor entrance is correct, Oceanside Harbor will continue to have unnecessary repairs of utilities, wood and roller assemblies, and a rapid failing of floats. The floats on the Transient Dock, installed in 1978, will have to be replaced within 1 to 2 years at a cost of $90,000 (8 to 8 years normal life span). T-Dock floats will require major work in 2 years (4 year normal life span).

All of the hollow spun piles are being replaced on a 5-year plan. Fifteen of the piles have broken off. After pulling, checking and replacing, 40 others have been badly cracked just below the mud line. The Harbor District has had to add more piles to the ends of the fingers and main walk to reinforce lthe system.

Costs for repairing utilities, etc., are for parts only. Labor time is unknown because maintenance crews are continuously nailing dock lumber, hanging pipes, tying boats, tightening cleats and bolts and pumping docks. A rough estimate of time would 30 hours per week, or $30,000 per year.

Additional examples of damage costs due to surge are as follows:

1. **Commercial dock & Sportfishing Dock (1976-1986 - $309,000)**
    a) Replaced in 1976-77 (normal life of 15 to 20 years, should have been good until at least 1991/92 - $123,000.
    b) 1978 through 1982 - expended $40,000 on repairs.
    c) Commercial Dock replaced in 1983 (life span of only 5 years) - $40,000.
    d) 1983 - expended $4,000 on repairs.
    e) Sportfishing Dock replaced in 1984/85 (life span of only 7 years) - $100,000.
    f) 1985 through 1986 - expended $2,000 on repairs.
2. **Transit Dock (1978-1986 - $140,000)**
    a) Transient Dock slip 16-24 were replaced in 1978 at a cost of $40,000.
    b) Transient Dock slip 16-24 were replaced in 1980/81 at a cost of $80,000 (life span of 2 years).
    c) Repair of utilities, wood gusset, roller assembly 1978 through 1986 - $20,000.

3. **Y-Dock (1978-1986 - $127,000) - Lost Revenue $445,500**

   a) Y-Dock original length - 1,200 feet.

   b) 300 feet replaced in 1978-80 at a cost of $60,000.

   c) 300 feet replaced in 1985 at a cost of $40,000.

   d) 600 feet have not been replaced due to surge and swell.

   e) Repair to utilities estimated at $27,000.

   f) Lost revenue - $49,500 per year due to the 600 feet of dock not replaced.

4. **Coast Guard Dock (1973-1986 - $186,800)**

   a) Coast Guard Dock installed in 1973 at a cost of $139,000.

   b) Replaced in 1981 at a cost of $40,000 (7 year life span).

   c) Cost of repairs to utilities - $7,800.

5. **Launch Ramp Dock (1982-1986 - $83,200)**

   a) Launch ramp and tie-up dock replaced in 1982/83 at a cost of $82,000.
   b) Repair of wood and roller assembly - $1,200.

6. **J-Dock (1984-1986 - $519,638)**

   a) J-Dock replaced in 1984 at a cost of $519,638.

   b) Repair of utilities, roller wood - $2,000.

7. **R through T Docks (1984-1986 - $1,671,793)**

   a) R through T Docks have been replaced from 1984-86 at a cost of $1,667,793.

   b) Repair of utilities - $4,000.

8. **A through I Docks (1978-1986 - $225,000)**

   a) Annual budget for repair of docks A through I, the old docks left in the Harbor, has been $20,000 to $30,000 per year, dropping as new docks are installed.

9. **Rip Rap Replacement (1982-1987 - $160,000)**

   a) Repair of riprap has been $20,000 per year for past 4 years, with $80,000 budgeted in 1986/87 for major work in launching ramp area.

Repair & Replacement:

Totals 1978 to 1986 = $1,441,431

Lost Revenue = 445,500

TOTAL COSTS = $1,886,931

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6.3

COMMERCIAL VESSELS

The following commercial vessels are berthed in Oceanside Harbor:

Owner/Business Name	Boat Name	Length	Type of Commercial Activity
R. Dunn	Espada	42'	Fishing
J. Donnelly	Querida	47'	Fishing
F. Pahl	Fishin'n Fever	29'	Fishing
D. Piro		24'	Fishing
D. Calloway	MaryAnn	30'	Fishing
J. Guth	Ruthie	37'	Fishing
G. Lauro	Maria Madre	36'	Fishing
B. Breakfield	Convincer III	32'	Fishing
D. McWha	Wharf Rat	25'	Fishing
C. Connor	Sweet C	27'	Fishing
M. Malley	Cardiff Rose	40'	Fishing
R. Grant	Big Eye	22'	Fishing
N. Eaton	Pacific Sun	30'	Fishing
P. Sertic	LoAn	43'	Fishing
R. Miller		20'	Fishing
T. Ptak	Donna H.	22'	Fishing
P. Ghio	San Clemente	25'	Fishing
J. Bowen	Lisa Jane	20'	Fishing
T. Pendleton	Lois B.	25'	Fishing
D. Parnell	Average White Boy	17'	Fishing
D. Whitehill		20'	Fishing
J. Masterson	Stango	27'	Fishing
E. Nowell	Morning Star	32'	Fishing
J. Jones	Trojan	40'	Live Bait Fishing
Helgren's Sportfishing	Electra	60'	Sportfishing Charters
Helgren's Sportfishing	Sea Trek	50'	Sportfishing Charters
Helgren's Sportfishing	Oceanside 95	95'	Sportfishing Charters
Helgren's Sportfishing	Tortuga	45'	Sportfishing Charters
Helgren's Sportfishing	(Subleased Space)	45'	Sportfishing Charters
R. Stanley	Pussycat	27'	Charter Fishing Trips
Marine Review Comm.	San Diego State Univ.	20'	Research
Cal. Marine Review	Metermaid	24'	Research
Eco Systems	Osprey	30'	Research
D. Carlson	Fisherette	40'	Research
Hydra Marine	Andromeda	30'	Salvage
Hydra Marine		14'	Salvage
D. Miller	Cobra I	37'	Diving & Salvage
D. Miller	Cobra II	23'	Diving & Salvage
Oceanworks	Diver	36'	Oil pipe hookups for power plants
Oceanworks	Ranger	43'	
U.S. Coast Guard	Cutter Point Hobart	82'	Open Water Patrolling

The following trailered commercial vessels are launched at Oceanside Harbor:

Owner/Business Name	Boat Name	Length	Type of Commercial Activity
Eco M	Eco M	21'	Research
U.C. Santa Barbara	Sea Pig	23'	Research
Marine Eco Consult.	Better Benthos	23'	Research
West Teck	Pelican	23'	Research

TOTAL: 45 Commercial Vessels

6.4

PRIOR REPORTS AND EXISTING PROJECTS IN THE OCEANSIDE HARBOR AREA

Since the harbor was first built in 1942, there have been numerous evaluations of harbor expansion and of the shoaling problem and associated downcoast beach erosion. While harbor capacity has increased as a result of implementing recommendations of these studies, the downcoast beaches have not been stabilized. Study findings and recommendations are shown on table 1.

Table 1: Prior Reports, Oceanside Harbor

REPORT	FINDINGS AND RECOMMENDATIONS
REPORT ON A PROGRAM FOR INSTALLING, MONITORING, AND EVALUATING THE EFFECTIVENESS OF A SAND BYPASS SYSTEM AS A MEANS OF MAINTENANCE OF THE HARBOR CHANNELS, OCEANSIDE HARBOR, OCEANSIDE, CA. March 1982. LA District Corps of Engineers	Shoaling in the harbor is a result of drift from both north and south. A continuously operating system of jet pumps and fluidizers may intercept sediment entering the harbor and will provide constant nourishment for downcoast beaches. Such a sand bypass system will not completely solve the erosion of downcoast beaches, as the sediment input to the area from local streams has diminished in the past 40 years. Installation of the system was recommended and is proceeding.
SURVEY REPORT FOR BEACH EROSION CONTROL, SAN DIEGO COUNTY, VICINITY OF OCEANSIDE. CALIFORNIA. Sept. 1980. LA District Corps of Engineers	Beach erosion control is necessary to prevent serious damages to public and private property along Oceanside Beach. Recommendation calls for a 10,800-foot long offshore breakwater with 4 groins constructed perpendicular to the beach for further stabilization and as transition structures to downcoast areas.
OCEANSIDE HARBOR AND BEACH, CALIFORNIA: DESIGN OF STRUCTURES FOR HARBOR IMPROVEMENT AND BEACH EROSION CONTROL June 1980 U.S. Army Engineer Waterways Experiment Station	Model studies indicate the best way to increase harbor area and reduce wave surge is creation of inner harbor combined with extension of both the South Jetty and the North Breakwater. Several configurations were shown to be feasible.
SHOALING STUDY, OCEANSIDE SMALL CRAFT HARBOR. 1 Feb 1968 Moffatt and Nichol, Engineers	Shoaling of entrance channels is the result of both downcoast and upcoast drift. South Jetty and South Groin should be extended seaward to reduce recycling of sediment dredged from the harbor and placed on downcoast beaches.

Table 1 -- continued

REPORT	FINDINGS AND RECOMMENDATIONS
SURVEY REPORT FOR NAVIGATION, OCEANSIDE HARBOR, OCEANSIDE (CAMP PENDLETON), CA June 1963, LA District Corps of Engineers	The small craft harbor designed and built by local interests conformed to Corps standards and would have been justified as a Federal project. Federal maintenance of the harbor was recommended.
DESIGN WAVES FOR PROPOSED SMALL CRAFT HARBOR AT OCEANSIDE, CALIFORNIA March, 1960. Marine Advisors	Based on 1900-1958 storm history, shoreline would best be protected if sheltered from directions of greater than 260° azimuth (from north). Without protection, net littoral drift downcoast would be about 200,000 cubic yards per year.
INTERIM REPORT ON FEASIBILITY OF LOCATING A PROPOSED RECREATIONAL HARBOR ENTRANCE IN THE LEE OF THE THE EXTENDED BREAKWATER AT DEL MAR BOAT BASIN, CAMP PENDLETON, CALIFORNIA. October 1958. LA District Corps of Engineers.	Construction of civilian harbor would benefit downcoast beach, improve alinement of entrance channel, and have no detrimental impact on military use of Del Mar Boat Basin. Report recommended that the the Oceanside Small Craft Harbor be constructed.
REPORT ON SAND ACCRETIONS AT DEL MAR HARBOR, CAMP PENDLETON, CALIFORNIA July 1958. Leeds, Hill, and Jewett, Engineers	Average annual accumulation of sediment in the harbor entrance will be 250,000 cubic yards, requiring biennial dredging of 500,000 cubic yards. Report concluded that the South Jetty construction would reduce upcoast drift into the harbor entrance.
SHORE PROTECTION AND SMALL CRAFT HARBOR DEVELOPMENT IN OCEANSIDE-CAMP PENDLETON AREA, CALIFORNIA November 1955. Leeds, Hill, and Jewett, Engineers	The Del Mar Boat Basin should be dredged. Oceanside public beach should be restored. Recommendation was for not less than 900,000 cubic yards to be dredged from the harbor area and placed on downcoast beaches.
INTERIM REPORT ON HARBOR ENTRANCE IMPROVEMENT AT CAMP PENDLETON, CALIFORNIA 25 Mar 1953. LA District, Corps of Engineers	Net downcoast littoral drift probably exceeds upcoast by 100,000 cubic yards per year. From 1950-1952, about 1.5 million cubic yards of sediment accumulated in harbor entrance. Recommendation was that jetties be rebuilt to trap sand for periodic beach nourishment.
REPORT FOR THE CITY OF OCEANSIDE ON EFFECTS OF SHORE EROSION AND ACCRETION TO CAMP PENDLETON BOAT HARBOR October 1949. Leeds, Hill, and Jewett, Engineers	Beaches have been seriously eroded since Camp Pendleton Harbor was constructed. An adequate small-craft harbor is needed in the area. Report recommends a small craft harbor be constructed using the Oceanside site, and that beaches downcoast be stabilized.

PORT OF STOCKTON DEEPWATER SHIP CHANNEL

STATEMENT OF ALEXANDER KRYGSMAN, PORT DIRECTOR, PORT OF STOCKTON

Mr. LANGNER. Congressman Shumway was from the Port of Stockton area. Now, we have Harold Berg, commission chairman today, Port Commissioner Frank Saunders, and Port Director Alex Krygsman, who has a statement.

Mr. KRYGSMAN. Mr. Chairman, I have submitted a statement for the record, which I would ask you to include in the record.

I also brought a copy of our port magazine, to describe some of our channel and port activities. I want to point out on the outside is a picture of a 12-meter yacht. This is one of the challengers of the America's Cup. They will be racing in Australia to regain the America's Cup and the "U.S.A.," which was built in Stockton, will be our best hope to return the Cup to America. I want you to remember us by it.

Mr. Chairman, I am asking today for funding of our project, $5 million, of which $3.9 million is in the President's budget. I am asking for an additional $1.1 million because about 3 years ago we asked for the final funding of this project. With money being tight, we received about 80 or 85 percent. We were required to come back the next year for the balance of the 15 percent, when we again received 80 percent, which caused us to come back the next year for the balance of the balance; and this year, we are coming for the balance of the balance of the balance. This year, we are again receiving about 90 percent or so of the balance required to finish the project. Next year, we will be back for the balance of the balance of the balance of the balance, and clearly, this could go on forever, because it will never end.

That is why we are asking this year for $1.1 million more than the President had in his budget. We ask for your consideration. Thank you very much.

Senator BURDICK. Are you going to get the Australians this time?

Mr. KRYGSMAN. We sure hope so.

Mr. LANGNER. We hope so.

[The statement follows:]

STATEMENT OF THE PORT OF STOCKTON, CA

I am Alexander Krygsman, port director of the Port of Stockton, Stockton, CA.

The Port of Stockton deepwater channel deepening project is an authorized project, presently under construction.

The Port of Stockton is primarily a bulk port that serves industry and agriculture in the San Joaquin Valley in California and the bulk imports and exports of the Western States, including the coal areas of these States.

The Port of Stockton recognized as far back as 1952 that deeper channels would be needed for the movements of bulk cargoes and requested the Corps of Engineers to deepen the channel in 1952. Coal, grain, fertilizers, and many other bulk materials require deeper channels to serve the larger bulk carriers.

The Nation needs ports that can handle larger, more economical, and more fuel efficient vessels close to the production areas, both agricultural and industrial, to conserve energy.

The Port of Stockton is such a port. Its channel is presently being deepened to keep it a viable port that can adequately serve our Nation and California's needs.

The Stockton Channel deepening project has overwhelming public support. The city of Stockton, San Joaquin County, neighboring cities and counties, and the State of California support it.

This urgent project is now more than three-fourths done and it deserves continued funding to completion. We urge you to appropriate the same amount as contained in the proposed President's budget.

I wish to also state again for the record that the Port of Stockton is in support of deepening the Sacramento Channel.

Los Angeles and Long Beach Navigation Projects

PREPARED STATEMENT

Mr. Langner. The Port of Long Beach is represented here, but Congressman Anderson has already testified on behalf of Long Beach. But we have Dan Allen, director of engineering; and Travis Montgomery, among others here from the Port of Long Beach.

[The statement follows:]

STATEMENT OF THE PORT OF LONG BEACH, CA

I am E. D. Allen, Director of Engineering, Design and Development for the Port of Long Beach, California. I have been authorized by the Board of Harbor Commissioners of the City of Long Beach to represent the Port of Long Beach in regard to appropriations for the Los Angeles-Long Beach Harbors Study, the Los Angeles and Long Beach Harbors Model Study programs, and for remedial maintenance dredging in the mouth of the Los Angeles River.

The Ports of Long Beach and Los Angeles, in cooperation with the Corps of Engineers, have developed a long-range master plan, the so-called "2020 Plan", which demonstrates the need for new navigation channels and 2,600 acres of new landfill development. This document came out of the Los Angeles-Long Beach Harbors Study for future channels and landfill development, which has been in process since 1964 by the U. S. Army Corps of Engineers. The Ports and the Corps wish to continue the study by doing a feasibility report on the project, including physical and numerical model testing and other studies needed for the permitting process. It is therefore urged that the Committee approve an appropriation of $500,000 to continue this study.

The Water Resources Development Act of 1976, Section 123, authorized the Chief of Engineers to operate and maintain the Los Angeles-Long Beach Harbor Hydraulic Model at the U.S. Army Waterways Experiment Station in Vicksburg, Mississippi, as part of the Los Angeles and Long Beach Harbors Model Study. In the President's budget for fiscal year 1987, $140,000 has been included to maintain that model. However, as a portion of the Los Angeles and Long Beach Harbors Model Study, the Corps of Engineers has been assembling data since 1982 to study tidal circulation, wave energy, and ship motion in the San Pedro Bay area. This study is absolutely essential to satisfy regulatory agency requirements and to plan and engineer the expansion of the Port complex and associated navigation channels, as detailed in the Port's "2020 Master Plan." This study must be consecutively funded for several more years if useful results are to be obtained. The President's budget for fiscal year 1987 does not include Operation & Maintenance funding needed to acquire, place, and maintain instrumentation for this program by the Waterways Experiment Station, even though it was appropriated by the Conference Report for fiscal year 1986. It is currently estimated that an appropriation of $1,160,000 would fund this much-needed continued information-gathering program for fiscal year 1987. Congress is therefore respectfully requested to appropriate this $1,160,000, plus the $140,000 for model maintenance, for a total appropriation of $1,300,000 for fiscal year 1987. It is our understanding that the Corps of Engineers is capable of continuing this program if funded.

The modernization and expansion program by the Port of Long Beach is estimated to cost in excess of $400,000,000 of local funds for the decade of the 1980's and a greater growth in the 1990's. The Port has essentially utilized all existing available land areas. The Port has a deep draft tanker terminal with a water depth of -76 feet which is capable of berthing 285,000 DWT ships. But existing depth of the channel serving this berth is only -60 feet. The deepening of this channel and subsequent developments can be carried out only if additional landfills and berths can be provided. Design of these developments is dependent on data obtainable from hydraulic monitoring of San Pedro Bay and hydraulic model testing, together with the results of the Los Angeles-Long Beach Harbors Study.

The Port of Long Beach also concurs with and supports the recommendation of the California Marine Affairs and Navigation Conference and the City of Long Beach on federal funding for remedial maintenance dredging to remove accumulated flood-deposited silt in the mouth of the Los Angeles River. These silt deposits create serious restrictions and hazards to commercial and recreational boating activity in and adjacent to the Long Beach Harbor District. In addition, the Port recommends that these silt deposits be removed, preferably on an annual basis, or at least on a biennial basis as a scheduled item of work. The dredged material should be used for filling scoured edges of the river channel, replacement of the sand on the beaches in Long Beach down the coast from the Los Angeles River, or creation of new landfills in adjacent areas. The replacement is necessary because of the interruption of the normal littoral processes by the flood control channel and the influence of the federal breakwater on normal wave action, which create a reduction in sand movement and serious beach erosion under certain storm conditions. It is estimated that the annual rate of siltation is approximately 200,000 to 300,000 cubic yards and is influenced by operational decisions at the Corps of Engineers' Hansen Dam located at the headwaters of the river. It is imperative, in our opinion, that a more assured long-range remedy be found for the Los Angeles River mouth if navigational utility is to be maintained. House Document 843, 76th Congress, 3rd Session, delegated this maintenance responsibility to the Corps, but developments in the mouth of the River have rendered the authorizations set forth in this document obsolete. Therefore, it is recommended that the existing design elevation be lowered to a depth of -30 ft. and that a scheduled program be established to monitor water depths in the River to insure an operational depth of -20 ft. These actions will allow the Corps to initiate maintenance activities in a more timely and economically feasible manner before the channel becomes completely closed to navigation on one side and excessive scour occurs on the other side. The City and the Port believe that these modifications, as well as an explicit annual maintenance dredging and beach replenishment project would provide such a long-range solution to the siltation problem from the Los Angeles River. It is currently estimated that an appropriation of $1,457,000 would fund this most essential remedial project on an annual basis. Congress is therefore respectfully requested to appropriate this $1,457,000.

Attached hereto is Resolution No. HD 1328, adopted by the Board of Harbor Commissioners of the City of Long Beach on March 17, 1986, and Resolution No. C-2441, adopted by the Long Beach City Council on March 18, 1986, both of which contain data relating to the background of the Los Angeles-Long Beach Harbors Study, hydraulic modeling, and other related matters, and which stresses the need for federal assistance in developing economic, technical, and environmental background information essential to the design and permitting of Port facilities vital to regional and national interests.

Agencies benefiting from these projects in San Pedro Bay include, but are not limited to, the City of Long Beach, the Ports of Long Beach and Los Angeles, the County of Los Angeles, the State of California, and the United States Navy and Coast Guard, plus various state and federal environmental agencies.

Thank you for permitting me the privilege of this presentation.

RESOLUTION NO. HD-1328

A RESOLUTION OF THE BOARD OF HARBOR COMMISSIONERS OF THE CITY OF LONG BEACH, CALIFORNIA, REQUESTING THE CONGRESS OF THE UNITED STATES TO APPROPRIATE FUNDS TO CONTINUE THE LOS ANGELES-LONG BEACH HARBORS STUDY, TO CONTINUE THE LOS ANGELES AND LONG BEACH HARBORS MODEL STUDY PROGRAMS, BOTH RELATING TO IMPROVEMENTS IN SAN PEDRO BAY, AND FOR REMEDIAL MAINTENANCE DREDGING IN THE MOUTH OF THE LOS ANGELES RIVER, ALL BY THE UNITED STATES ARMY, CORPS OF ENGINEERS, AND MAKING A DETERMINATION RELATING THERETO.

RECEIVED
CITY CLERK
LONG BEACH, CALIF.
80 MAR 18 A10: 27

WHEREAS, the Ports of Long Beach and Los Angeles in San Pedro Bay, California, are two of a limited number of sites on the West Coast of the United States which possess the potentia for deep water ports as recommended in the West Coast Deep Water Port Facility Study conducted by the United State Army, Corps of Engineers; and

WHEREAS, the Ports of Long Beach and Los Angeles have a record of both physical and fiscal growth to the extent that together the two are presently handling over 98 million metric tons of cargo annually (on a fiscal year basis), which cargo is valued at over 35 billion dollars; and

WHEREAS, the growth and activity of the Ports of Long Beach and Los Angeles have a significant regional and national economic effect; and

WHEREAS, in excess of two billion dollars in federal revenues are derived annually through United States Customs duties on foreign imports passing through the Ports of Long Beach and Los Angeles; and

WHEREAS, both Ports are now, and are increasingly becoming, hard-pressed to provide facilities to meet the needs of the shipping industry, and to that end are conducting extensive studies, in conjunction with federal studies, to determine navigational, transportation, and environmental requirements necessary to provide economic and adequate surge-free berthing and cargo-handling facilities; and

WHEREAS, all existing land in the Port of Long Beach which can be developed for shipping operations has been utilized and to meet the needs of the following decade, the design, permitting and construction of new lands must commence immediately; and

WHEREAS, continuation of the studies currently underway by the Corps of Engineers, consisting of the Los Angeles-Long Beach Harbors Study originally requested by the Committees on Public Works of both the House and the Senate, and the Los Angeles and Long Beach Harbors Model Study programs, including maintenance and operation of the San Pedro Bay Hydraulic Model at Vicksburg, Mississippi, as authorized by Section 123 of the Water Resources Development Act of 1976, is urgently needed for use in the design and permitting processes for future landfills for Port Development; and

WHEREAS, it is necessary, as part of the Los Angeles and Long Beach Harbors Model Study, to obtain long-term data on the hydraulic regime in San Pedro Bay, which activity consists of a monitoring program using self-contained recording instruments to determine currents and energy entering the Bay in order to augment earlier monitoring and to verify specific needs for hydraulic model testing to assure tidal flushing and surge-free berthing; and

WHEREAS, the Los Angeles River is the largest of numerous flood-control channels constructed and maintained jointly by the Los Angeles County Flood Control District and the United States Army, Corps of Engineers, and silt deposit from heavy storm runoff in recent years accumulating in the mouth of the Los Angeles River between the City and the Port of Long Beach constitutes a restriction and hazard to both commercial and recreational boating; and

WHEREAS, the Board of Harbor Commissioners of the City of Long Beach, as a properly constituted and financially responsible local agency, by its Resolution No. HD-890, adopted August 3, 1965, expressed its intent to enter into such agreements as may be reasonably required to further federal projects for the development and improvement of Long Beach and Los Angeles Harbors; and

WHEREAS, the Director of Port Planning of the City of Long Beach Harbor Department has determined, in a review of the applicability of the California Environmental Quality Act (CEQA) to this Resolution, that under the provisions of Sections 15301 and 15378 of the State Guidelines implementing CEQA, this Resolution is not subject to the requirements of CEQA;

NOW, THEREFORE, the Board of Harbor Commissioners of the City of Long Beach resolves as follows:

1. The Board of Harbor Commissioners hereby finds and determines that this Resolution is not subject to the provisions of the California Environmental Quality Act.

2. That the Congress of the United States be, and is hereby, respectfully requested to appropriate simultaneously the funds necessary for the Chief of Engineers, United States Army, Corps of Engineers, to continue the Los Angeles-Long Beach Harbors Study.

3. That the Congress of the United States be, and is hereby, respectfully requested to appropriate simultaneously the funds necessary for the Chief of Engineers, United States Army, Corps of Engineers, to maintain the San Pedro Bay Hydraulic Model at the Waterways Experiment Station at Vicksburg, Missis-

sippi, as part of the Los Angeles and Long Beach Harbors Model Study.

4. That the Congress of the United States be, and is hereby, respectfully requested to appropriate simultaneously the funds necessary for the Chief of Engineers, United States Army, Corps of Engineers, to continue the hydraulic monitoring program of San Pedro Bay to obtain prototype data essential to long-range planning and design, also as part of the Los Angeles and Long Beach Harbors Model Study.

5. That the Congress of the United States be, and is hereby, respectfully requested to appropriate simultaneously the funds necessary for the Chief of Engineers, United States Army, Corps of Engineers, in conjunction with the Los Angeles County Flood Control District, to engage in the necessary maintenance dredging at the mouth of the Los Angeles River to remove silt deposits which have accumulated at that location.

6. That the Executive Director of the Long Beach Harbor Department be, and he is hereby, directed to send copies of this Resolution to the United States Senators and to Members of the House of Representatives from California, with a letter requesting their assistance in presenting this Resolution before the proper Congressional committees.

7. That the Executive Director of the Long Beach Harbor Department be, and he is hereby, further directed to send copies of this Resolution to the President of the United States; the Director, Office of Management and Budget; the Secretary of the Army; the Chief of Engineers, the Board of Engineers for Rivers and Harbors, the Division Engineer-San Francisco, the District Engineer-Los Angeles, all of the United States Army, Corps of Engineers; and to such other interested persons as he may deem appropriate.

The Secretary of the Board shall certify to the passage of this Resolution by the Board of Harbor Commissioners of the City of Long Beach, shall cause the same to be posted in three (3) conspicuous places in the City of Long Beach, and shall cause a certified copy of this Resolution to be filed forthwith with the City Clerk of the City of Long Beach and it shall thereupon take effect.

I hereby certify that the foregoing Resolution was adopted by the Board of Harbor Commissioners of the City of Long Beach at its meeting of March 17, 1986, by the following vote:

Ayes: Commissioners Talin,Gray,Hauser,
Langslet,DuVall

Noes: Commissioners None

Absent: Commissioners None

Not Voting: Commissioners None

David L. Hauser
Secretary

RESOLUTION NO. C-24111

A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF LONG BEACH URGING THE CONGRESS OF THE UNITED STATES TO AUTHORIZE AND FUND THE ANNUAL DREDGING OF THE MOUTH OF THE LOS ANGELES RIVER

WHEREAS, the mouth of the Los Angeles River, which is the largest of the numerous flood control channels in Los Angeles County, is located within the city limits of the City of Long Beach; and

WHEREAS, due to heavy rainfall runoff, great quantities of silt and sediment are deposited at the mouth of the Los Angeles River and in the channel seaward thereof in Queensway Bay; and

WHEREAS, the annual rate of such siltation is approximately 200,000 to 300,000 cubic yards, and is influenced by operational decisions at the Corps of Engineers Hansen Dam situated at the headwaters of the Los Angeles River; and

WHEREAS, the City-owned Catalina Landing Facility, from which a private company operates daily scheduled passenger service to and from Catalina Island under a permit from the City, and the Golden Shore Small Boat Launching Facility which is owned and operated by the City for the launching of small boats, are both located at the mouth of the Los Angeles River; and

WHEREAS, said silt deposits create substantial hazards and cause serious problems and significantly restrict, limit and hinder the use of the navigable waters at the mouth of the Los Angeles River for commercial and recreational boating activities, especially for commercial transportation between Long Beach and Catalina Island; and

WHEREAS, the shoaling about the piers of the Queensway Bridge created by the silt deposits may affect the structural integrity of said bridge; and

WHEREAS, the maintenance dredging of the mouth of the Los Angeles River and the basins and channel seaward thereof in Queensway Bay is necessary so that said navigable water areas and the adjacent facilities may continue to be used safely and without danger of loss of life and property; and

WHEREAS, the maintenance dredging of the mouth of the Los Angeles River to insure continuation of safe navigation is within the jurisdiction of the United States Army, Corps of Engineers, and

WHEREAS, the accumulated silt deposits in the mouth of said river should be removed on an annual basis as a scheduled item of work for the Corps of Engineers; and

WHEREAS, due to funding limitations, such maintenance dredging has only been performed on an occasional basis by the Federal Government and navigational dredging responsibilities have thus been unnecessarily shifted to local government;

NOW, THEREFORE, the City Council of the City of Long Beach resolves as follows:

Section 1. The Congress of the United States is urged to appropriate approximately $1,200,000 for the United States Army, Corps of Engineers, to perform the necessary maintenance dredging at the mouth of the Los Angeles River and especially for commercial transportation between Long Beach and Catalina Island; and

WHEREAS, the shoaling about the piers of the Queensway Bridge created by the silt deposits may affect the structural integrity of said bridge; and

WHEREAS, the maintenance dredging of the mouth of the Los Angeles River and the basins and channel seaward thereof in Queensway Bay is necessary so that said navigable water areas and the adjacent facilities may continue to be used safely and without danger of loss of life and property; and

WHEREAS, the maintenance dredging of the mouth of the Los Angeles River to insure continuation of safe navigation is within the jurisdiction of the United States Army, Corps of Engineers, and

WHEREAS, the accumulated silt deposits in the mouth of said river should be removed on an annual basis as a scheduled item of work for the Corps of Engineers; and

WHEREAS, due to funding limitations, such maintenance dredging has only been performed on an occasional basis by the Federal Government and navigational dredging responsibilities have thus been unnecessarily shifted to local government;

NOW, THEREFORE, the City Council of the City of Long Beach resolves as follows:

Section 1. The Congress of the United States is urged to appropriate approximately $1,200,000 for the United States Army, Corps of Engineers, to perform the necessary maintenance dredging at the mouth of the Los Angeles River and the basins and channel seaward thereof in Queensway Bay to remove deposits of silt and sediment which have accumulated at that location to lower the existing design elevation to a depth of minus thirty (30) feet mean low low water (MLLW).

Sec. 2. The Congress of the United States is requested to authorize and fund an annual maintenance dredging project for the mouth of the Los Angeles River by the Department of Army, Corps of Engineers in order to insure an operational depth of minus twenty (20) feet mean low low water (MLLW) and to provide a long range solution to this continuing situation and maintain navigational utility.

Sec. 3. The City Clerk is directed to send certified copies of this resolution to the United States Senators and the Members of the House of Representatives representing the Long

Beach area; the Secretary of the Army; the Chief of Engineers of the Department of the Army; and to such other interested persons as may be deemed appropriate.

Sec. 4. The City Clerk shall certify to the passage of this resolution by the City Council of the City of Long Beach and it shall thereupon take effect.

I hereby certify that the foregoing resolution was adopted by the City Council of the City of Long Beach at its meeting of March 18, 1986, by the following vote:

Ayes: Councilmembers: Wilder, Hall, Clark, Wilson, Sato, Kell.

Noes: Councilmembers: None.

Absent: Councilmembers: Edgerton, Tuttle, Harwood.

Shelba Powell

City Clerk

PORT OF SAN LUIS BREAKWATER MODIFICATION STUDY

STATEMENT OF JAMES CHAMBERS, COMMISSIONER, PORT SAN LUIS HARBOR DISTRICT

Mr. LANGNER. Port San Luis Harbor District is represented by Jim Blecha, commissioner, and James Chambers, commissioner, who has a brief statement.

Mr. CHAMBERS. Mr. Chairman, I have a two-sentence statement that tells you of our problem and looks to you for a solution. Last year Congress gave Port San Luis Harbor District $600,000 for an authorized breakwater study, but we have received only $150,000 of that.

If this year's request of $500,000 doesn't survive conference, we would certainly appreciate your help in getting all of what was appropriated.

Thank you, Mr. Chairman.

[The statement follows:]

STATEMENT OF PORT OF SAN LUIS, CA

Port San Luis is an authorized project!

Port San Luis is a commercial harbor!

Port San Luis has no southerly winter protection!

Replacement costs of $30 million were required to replace storm-damaged installations.

The sum of $600,000 has been appropriated by the Congress of these United States for additional breakwater studies.

A total of $150,000 has been expended by the Corps of Engineers on preliminary studies, for required modifications.

We request that the balance of this appropriation ($450,000) be released to the Corps for the Port San Luis breakwater modification study.

Further, we request that $50,000 additional be appropriated to enable the Corps to complete their study.

Total: $500,000.

Supporters: California State Boating and Waterways Department, California Marine Affairs and Navigation Conference, California Marine Parks and Harbor Association, and California Association of Harbor Masters and Port Captains.

WALNUT CREEK AND WILDCAT-SAN PABLO CREEKS PROJECTS

STATEMENT OF TOM POWERS, SUPERVISOR, CONTRA COSTA COUNTY

Mr. LANGNER. Contra Costa County is represented by Paul Hughey, Coalition of Labor and Business [COLAB], who submitted a statement for the record, and Supervisor Tom Powers.

Mr. POWERS. Thank you, Mr. Chairman. Thank you for allowing me to testify. I want to express the county's appreciation to you and your committee members for the past consideration that you have given us. The county supports the California Marine Affairs and Navigation Conference's priorities for port and marina projects. We would like to ask your continued support on the Walnut Creek project, which has $11.1 million in the President's budget. We would ask your continued support on that project.

Also, the Wildcat and San Pablo Creeks flood control project, which will begin construction in August, and we are asking, again, for what is in the President's budget, $4 million to complete that project.

With that, I want to thank you again, Mr. Chairman, for your consideration.

[The statement follows:]

STATEMENT OF THE CONTRA COSTA COUNTY AND CONTRA COSTA COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT, CALIFORNIA

SUMMARY

We, the Contra Costa County Board of Supervisors, would like to express the appreciation of Contra Costa County for the accomplishments made possible by your committee's past appropriations for flood control projects which have had far-reaching benefits to the people of this county. Today we offer testimony in support of appropriations for fiscal year 1986-87 on the following two projects:

CONSTRUCTION, WALNUT CREEK PROJECT

We support the proposed budget amount of $11.1 million to continue this project. This amount will allow the completion of construction on the San Ramon bypass project and the completion of construction on the upper Pine Creek project. These two creeks are major tributaries to Walnut Creek. During the recent heavy rains in California the improvements already constructed by the Corps of Engineers have shown the tremendous value of this program to our community.

CONSTRUCTION, WILDCAT/SAN PABLO CREEKS

We support the budgeted amount of $4 million to complete the project construction which will begin this year. Flooding from these creeks occurred again this year. The area flooded sorely needs rejuvenation. However, this cannot occur until we solve the continual flooding problem. The county flood control district, in cooperation with the U.S. Army Corps of Engineers, environmental groups, interested agencies, and the local community has developed a consensus plan of improvements for these creeks. The plan is equivalent to the authorized project in terms of capacity, and provides for salt marsh enhancement and regional recreational opportunities. The local community is solidly behind the project including providing the local share cost. Further, the environmental impacts will be fully mitigated and the mitigation measures are acceptable to all concerned.

STATEMENT OF SHELIA LODGE, MAYOR, SANTA BARBARA, CA

Mr. LANGNER. Santa Barbara, Mayor Sheila Lodge.

Ms. LODGE. Thank you, Mr. Chairman, for the opportunity to appear before you today. For over 50 years, the Corps of Engineers has helped keep our harbor open with essential maintenance dredging. We are a harbor of refuge and we berth over 1,000 boats, including a Coast Guard rescue vessel and 150 other boats. We are requesting the $850,000 that is in the President's budget for dredging. I urge your approval of this appropriation and, in addition, ask for $220 to reopen a Corps study on harbor preservation. We have allocated ourselves $100,000 toward this study which could lead to reduced Federal costs in the future and a long-term solution. We thank you for your favorable consideration.

SAN RAFAEL CREEK PROJECT, CALIFORNIA

STATEMENT OF DAVID BERNARDI, DIRECTOR OF PUBLIC WORKS, SAN RAFAEL, CA

Mr. LANGNER. The city of San Rafael is represented today by David Bernardi, director of public works.

Mr. BERNARDI. Mr. Chairman, when the city council learned that the second half of the $2 million appropriation was not proposed for funding, the council authorized me to appear before you personally to request that you fund the project. We have provided an in-depth explanation of the commercial uses associated with San Rafael Creek. Through me, this council requests your favorable consideration of that project.

ADDITIONAL PREPARED STATEMENTS SUBMITTED FOR THE RECORD

Mr. LANGNER. We have additional statements submitted by the Port of Sacramento and a number of others including the Port of Oakland, the Ventura Port District, and the County of Los Angeles, and there could be others as well.

Senator BURDICK. They will be made part of the record.

[The statements follow:]

STATEMENT OF THE PORT OF SACRAMENTO

Summary of Request

Thank you, Mr. Chairman and members of the Subcommittee, for this opportunity to present testimony on behalf of the Sacramento River Deep Water Ship Channel deepening project.

The deepening of the Sacramento River Deep Water Ship Channel, following seventeen (17) years of study and review by the Corps of Engineers, is more than ready for the commencement of construction. Accordingly, we ask that your Honorable Committee include an item of $3.6 million to allow the Corps to begin construction. We have been negotiating a Local Cooperation Agreement with the Corps of Engineers based on project cost-sharing. We expect to have the Agreement executed prior to June 30, 1986. On the basis of last year's Supplemental Appropriations Funding bill, the Corps expects to move ahead on construction this year.

EXPECTATIONS EXCEEDED

When the Corps of Engineers studied the project (which ultimately led to the creation of the current channel and harbor) in 1955, they concluded that the project would be economically viable if on the average it handled 857,000 tons per year over the 50 year economic life. In our twentieth year (1983) the 30 millionth ton of cargo moved across the docks. By the Corps' projections, that should not have occurred until 1998. The level of cargo moving across the docks has reached as much as 3.25 million tons in one year. That level of activity should have occurred in the year 2060, by the Corps' projections. Thus by any measuring stick, the Port has proven its worth.

NEED FOR DEEPER WATER

The bulk cargoes presently moving through the Port sorely require deeper water. Bulk cargoes require larger vessels to minimize the per-ton cost for ocean freight. To continue to successfully compete in the world markets, the Port's shippers must be able to charter larger vessels with deeper drafts. To do any less makes them non-competitive and destroys their ability to foster our country's exports.

Just two of the Port's cargoes will serve to demonstrate the need. Last year the majority of the ships loading grain for export at Sacramento had to be topped-off at deeper water. When the Port started its woodchip export program in 1967, the ports at the receiving end had only 27 feet of draft capability. At that time Sacramento's 30 feet was ample. Now those same receiving ports offer 12 meters (over 39 feet) draft.

In both these cases, the long term picture can only mean that Sacramento will gradually be bypassed and eventually wither and die if depening is not accomplished. It should be pointed out that these exports contribute to helping solve the continuing United States balance of payments problem.

B. C. RATIO

The Corps' Feasibility Report shows that the deepening of the channel to Sacramento will produce a 2.0 benefit-cost ratio when evaluated at the interest rate of 8 1/8%. Typically, navigation projects have not shown well at these high interest rates which adversely affect the B/C ratio by tending to minimize annual benefits and exaggerate annual costs.

ADDITIONAL VALUES

Deepening the channel will also serve the energy conservation needs of the country. When ships can be fully loaded at the Port, it will avoid the need to move cargoes to more distant ports by land transportation means. It is even more dramatically evident now in the 1980's that water transport is many times more fuel-efficient per ton of cargo than land transportation. The needs of national defense will also be better served by making the Port more accessible to naval and merchant marine vessels that require the deeper draft.

SUMMARY

I wish to thank you, Mr. Chairman and your Subcommittee, both for hearing this testimony and for your considerable past help in including and augmenting appropriations for the Sacramento River Deep Water Ship Channel deepening project. Should the water project omnibus bill passed by both the House and the Senate become law, as we expect it will, our project will have no obstacles remaining to eventual successful completion. I urge that you include an item of $3.6 million to help ensure an early and economical completion.

STATEMENT OF THE DEPARTMENT OF BEACHES AND HARBORS, COUNTY OF LOS ANGELES

The Board of Supervisors of the County of Los Angeles respectfully requests the serious consideration of the Congress of the United States for several projects urgently required to preserve and restore a vital and precious asset, the 75 mile shoreline of Los Angeles County.

During the winter storms of 1983 a combination of unusually high tides and strong winds caused extensive damage to the Los Angeles County coast. In the past three years the County has worked diligently to restore our beaches to their pre-storm condition.

While the beaches may appear to be significantly restored, they continue to be extremely vulnerable to future storms. Healthy beaches are necessary, natural buffers to protect public facilities from the unpredictable forces of the ocean. Because Los Angeles County has one of the most heavily urbanized and developed shorelines in the country, it is extremely important to fund and complete the studies requested below in order to help prevent future damage to heavy public investments in shoreline facilities.

For several years we have also requested funding for continuation of a federal survey of the North Coast of Los Angeles County to determine feasible sites for construction of small craft berthing facilities and harbors of refuge. A major urban development adjacent to the federal channel in Marina del Rey has been approved in the local coastal zone management plan, thus giving this study a high priority.

California Storm and Tidal Wave Study (Approximate cost: $1,500,000)

The California Storm and Tidal Wave Study is presently examining the coast from the Mexican border north to Malibu

in Los Angeles County to document changes in the shoreline and compile a technical data base quantifying these changes. This data base will provide information necessary for decisions regarding the restoration and maintenance of the shoreline.

Funding should be increased to $1,500,000 in fiscal year 1987 to accelerate data collection analysis and findings from the U.S. Army Corps of Engineers.

North Coast of Los Angeles County Navigational Survey and Study (Approximate cost: $250,000)

Every year there is a growing demand for small craft harbor facilities in the United States, and nowhere is the demand more acute than in the Los Angeles metropolitan area.

The Marina del Rey Small Craft Harbor, a joint Federal/County project, has been greatly successful since its inception. Over $4.6 million has been expended by the Federal government since the project was first authorized in 1954. Matching funds from the State and County have topped $19 million, and the private sector has invested over $175 million in a great variety of public facilities. Both government agencies and the private sector alike have realized a substantial financial return from Marina del Rey.

A recently approved Coastal Zone Management Plan has identified a site adjacent to the Marina del Rey Small Craft Harbor for a new boat basin connecting with the existing navigation channel. A navigation study costing $250,000 is urgently needed for this area which is possibly the last significant opportunity to provide small craft facilities on the Los Angeles County coast.

Point Mugu to San Pedro Breakwater (Approximate cost: $300,000)

Unusually strong winter storms in 1982-83 caused extensive damage to the Los Angeles County shoreline. The normal storm track was altered by the effects of the El Nino phenomena and many strong storms directly hit the California coast. These storms coupled with unusually high tides caused widespread damage to beaches and shoreline facilities estimated at over $19 million.

While much of the sand has returned to the County's beaches, they remain vulnerable to future storms without proper shore protection. This feasibility study should be funded in order to help determine the most effective methods of shoreline protection at those points within the Santa Monica Bay and San Pedro compartments which are most vulnerable to future storm attack.

Additionally, the City of Santa Monica has created a Santa Monica Pier Restoration Corporation to formulate plans for the restoration of their famous pier, severely damaged in the 1982-83 storms. An important part of the pier redevelopment involves the reestablishment of a breakwater. Therefore, the City of Santa Monica is interested in having the Corps of Engineers study the feasibility of rebuilding the breakwater, which could protect the new pier. Inclusion of this project may increase cost of the study in future years.

Marina del Rey Channel Dredging (Approximate cost: $1,175,000)

This project is needed to provide for continued safe navigation in the Marina del Rey entrance channel. Sand deposits or shoaling are continually reducing the width of the boating lanes in the entrance channel, and sand deposits will eventually result in the harbor entrance being blocked.

Every year there are growing demands and shrinking resources, making the allocation of these resources a difficult task. I trust your Committee will recognize the high priority associated with the projects discussed in this letter to protect major public and private shoreline facilities and developments.

STATEMENT OF THE PORT OF OAKLAND

Chairman Hatfield and members of the committee. We appreciate the opportunity of appearing before you today in support of the California Marine Affairs and Navigation Conference recommendations concerning the Oakland Inner and Outer Harbor channels. Corps of Engineers estimated costs for these projects is $49,000,000. The fiscal year 1987 amount included in the President's budget is $2.5 million and an additional recommendation has been made increasing this amount to $3 million which will initiate construction of the combined project.

The proposed plan of improvements includes deepening of the Inner and Outer Harbor channels from the present MLLW depth of 35' to 42'. The plan of improvement will also include a 1,200' vessel turning circle as part of the Inner Harbor based on a designed ship of 960' in length. The plan of improvement also includes widening of the bar channel from 800' to 1,000'. The Port of Oakland will furnish all the necessary assurances and agreements to insure full implementation of the project.

Deepening of these channels will allow present and future generations of container ships unrestricted access to Inner and Outer Harbor terminals, and widening the bar channel will improve navigational safety. The Inner and Outer Harbor channel improvements will be a source of $1 billion in annual revenues to the region supporting more than 20,000 jobs. The channel improvements are the location of our major container handling facilities serving the newest ships that have been put in service by the containership lines serving the Port of Oakland. This class of ships requires the deeper drafts of the improved channels.

At the State level San Francisco Bay, consisting of the complex of port facilities with Oakland as the dominant port of the region, will serve the import and export requirements of not only the local area but into the hinterlands of the West coast and East Coast which will benefit from these improvements. Construction of the recommended 42' channel depths at Oakland will complete a vital link in this regional port system.

On the national level port facilities served by the Outer and Inner Harbor channel are vital for the U. S. role in world commerce and national defense. The projects will provide for improved navigation at the Oakland Naval Supply Center and to MOTBA North and MOTBA East. In case of a national emergency the commercial port facilities along the Outer and Inner Harbor channels will be counted on as a vital part of the nation's defense capabilities.

On behalf of the Board of Port Commissioners and the staff of the Port of Oakland, please accept our sincere appreciation for the work that has been done by this committee. As previously stated we support the C-MANC recommendations and are looking forward to a construction start in 1987. In closing, we would also like to extend our appreciation to the Corps of Engineers who have contributed so much toward the studies that eventually led to authorization of these projects. We will look forward to continued cooperation with this committee and to the Corps as the work progresses.

STATEMENT OF THE VENTURA PORT DISTRICT, CA

Ventura Harbor is located along the Southern California coastline in the City of San Buenaventura, some 30 miles downcoast from Santa Barbara, and approximately 60 miles northwest of the City of Los Angeles. Ventura Harbor became operational in 1963, and it soon became evident that the Harbor was plagued with a serious entrance problem. In May 1968, the Ventura Harbor became a Federally approved project committing the U. S. Army Corps of Engineers to provide maintenance dredging and a solution to the entrance problem. A detached breakwater and sand trap area completed by the Corps of Engineers in 1972 alleviated some of the more damaging difficulties but continuing navigational problems persisted. Additionally, the need for annual maintenance dredging continued, and the Corps of Engineers and the Ventura Port District have conducted maintenance dredging of the Harbor entrance within the limits of their jurisdiction from 1968 through the present time.

In recent years an aggressive development program has resulted in many new facilities, and others that are either under construction or are scheduled for start in the very near future. These include an extensive commercial facility, primarily oriented to the commercial fishing industry and the servicing of the offshore oil industry. The total investment for these improvements is approximately $30 million, with $1,300,000 being funded by the Economic Development Agency. In addition, the headquarters for the Channel Islands National Park has been completed, and large numbers of the public are enjoying the displays and programs of the National Park Service. A 225 room resort hotel complex was completed in 1984 at a cost of approximately $27 million, and a second 300 room to 450 room hotel and conference center will begin construction within twelve months.

All of the operations of the Harbor, particularly those related to commercial fishing and the support boats for the oil industry, are highly dependent upon a navigationally adequate entrance to the Harbor. It is therefore respectfully requested that the Congress support the Army Corps of Engineers FY87 Civil Works Budget request of $1,690,000 for the maintenance dredging of the Ventura Harbor entrance channel. The area of Corps of Engineers responsibility is illustrated in Photo No. 1.

II

The U. S. Army Corps of Engineers is presently completing the reconnaissance phase of an authorized review study of the continuing navigational problems associated with the Ventura Harbor entrance. Photo No. 2 illustrates the study area. The design deficiencies associated with the existing federal improvements at the Harbor entrance result in the periodic shoaling of the entrance channel which can in extreme instances lead to the complete closure of the Harbor, but much more regularly causes the development of dangerous wave conditions during the winter storm months. This situation is a hazard to navigation which limits Harbor growth and development, reduces commerce, increases maintenance costs, and disrupts the local environment.

The Army Corps of Engineers FY87 Civil Works Budget Request includes $175,000 for the continuation of the feasibility phase of this ongoing navigation study. The Ventura Port District is of course pleased that the Corps of Engineers is committed to moving forward with identifying the remedial measures necessary to correct the navigational problems associated with the federal improvements at the Harbor entrance. However, the Port District's financial participation in the cost of the feasibility study would be a severe hardship in view of the District's limited monetary resources and would be inappropriate since the study is necessitated by the design deficiencies associated with the 1972 federal improvements. It is therefore requested that the Congress eliminate the provision for local cost participation and include sufficient monies in the Corps of Engineers FY87 Civil Works Budget to continue the feasibility phase of the ongoing Ventura Harbor Entrance Channel Navigation Study.

STATEMENT OF THE COALITION OF LABOR AND BUSINESS FOR ALAMEDA, CONTRA COSTA, AND SOLANO COUNTIES, CA

SUMMARY

Project	Requested Amount Fiscal Year 1987	
San Francisco Bay to Stockton Ship Channel (John F. Baldwin and Stockton Ship Channels)	$5,000,000	1) Complete construction of Stockton Channel; 2) Continue Construction of Southampton Shoals Channel and Richmond Maneuvering Area; 3) Continue hydrological studies of hydraulic salinity barrier for Baldwin Channel on Bay and Delta Model.

My name is Paul F. Hughey. I am the Executive Director of the Coalition of Labor and Business for Alameda, Contra Costa and Solano Counties, California.

My organization would like to express our appreciation for the continued appropriations the Committee has provided to enable proper planning, design and construction for the San Francisco Bay to Stockton Ship Channel improvement project. This very important improvement is vital to the long range economic viability of the large area it serves. We also greatly appreciate the manner in which the Corps of Engineers is carefully considering the environmental impact of this project within the guidelines provided by the Congress. We approve of the careful analysis of environmental, economic and social factors as they relate to this project and we will cooperate fully in providing any information or assistance the Corps may require to enable proper judgment on initiating further phases of construction.

Background

A brief was filed with the Corps of Engineers in 1958, requesting a study of the feasibility of improving the main shipping channel between San Francisco Bay and the Port of Stockton. As a result, the study was funded by the Congress under an appropriation sponsored by the late Congressman John F. Baldwin. This project, described in House Document No. 208 of the 89th Congress, 1st Session, was authorized and approved by the Congress in September 1965. As a part of this project, the San Francisco Bay has been deepened from 50' to 55' and the main shipping channel into San Francisco Bay widened. Some minor additional construction was also provided near the Port of Richmond and on the levee system of the upper San Joaquin River.

In order to expedite work on portions of this overall project, the project has been divided into five phases or sections. Commencing at the entrance to San Francisco Bay, Phase 1, the widening and deepening of the San Francisco Bay to 55' has been completed.

Phase 2 consists of deepening the Southampton Shoals Channel from 35' to 45' for a distance of approximately three miles to connect the naturally deep waters of San Francisco Bay and West San Pablo Bay. The State of California, Congressman George Miller, the Contra Costa County Board of Supervisors and local interests all support this phase of the overall project. It will provide the vitally needed deeper channel for the Port of Richmond which has placed its first container berth in operation, provide a better approach to the Chevron, USA, Richmond Refinery wharf, and provide a needed deeper channel for the U.S. Naval Fuel Supply Depot at Point Molate, near Richmond, and the bulk liquid facilities of the Port of Richmond at Point San Pablo. The Corps of Engineers awarded an $8.3 million contract to commence construction of Phase 2 and the order to proceed was issued January 18, 1985. This phase will be completed in FY86.

Phases 3 and 4 consist of deepening the existing 36' channel through San Pablo Bay and the lower Suisun Bay 35' Channel to 45'. Corps model studies indicate that this phase will induce an increase in salinity levels in the Delta. Therefore, the Corps is conducting engineering and model studies on various types of underwater salinity barriers or sills in the Carquinez Strait to mitigate the effects of this phase.

Phase 5 consists of deepening the Stockton Channel and upper Suisun Bay Channel from the existing depth of 30' to 35' from Point Edith, upstream of Martinez, to the Port of Stockton. Construction commenced on this phase in October 1982, and will be completed this fiscal year.

The Economy

The San Francisco Bay is known throughout the world as one of the world's great harbors. In 1978, the latest year for which Corps of Engineers figures are available, some 56 million tons of cargo passed through the Golden Gate. Almost two-thirds of this total passed over the public and private docks of Contra Costa County and the Port of Benicia in adjacent Solano County via the existing John F. Baldwin Ship Channel.

All six of the petroleum refineries in Northern California, representing some 800,000 barrels per day of throughput, lie on this channel. Also on this channel is the world's largest sugar refinery, C&H at Crockett, importing almost 1 million tons of sugar each year, steel plants, chemical plants, paper mills, a gypsum plant, expanding general cargo facilities, and electric power generating plants of the Pacific Gas and Electric Company which are partially dependent upon shipment of fuel oil.

Also served by this channel are three important naval installations; the Naval Fuel Supply Depot at Point Molate, near Richmond; the U.S. Naval Shipyard (a Nuclear Submarine repair facility) at Mare Island, Vallejo; and the U.S. Naval Weapons Station at Concord which is shifting to containerization and which will require a deeper channel. The importance of a safe and adequate shipping channel to our Navy is obvious. It might be noted that the Corps does not include national defense installations in computing the cost-benefit ratio of projects.

Mr. Chairman, given the present balance of payment problems, it would seem obvious that everything possible should be done to reduce transportation costs, improve efficiency, and minimize environmental impacts.

In 1979, some 1,200 tankers entered San Francisco Bay. Over 250 of these vessels had a draft of 35' or more which is the present dock side depth of all of the petroleum refineries and terminals on the channel. These vessels have to anchor in South San Francisco Bay and have a portion of their cargo lightered off before they can proceed partially loaded to the refinery or terminal docks. This is an environmentally unsound practice, since it is known that the greatest risk of oil spillage occurs when it is necessary to transfer cargo. A deepening of the channel would enable these ships to proceed directly to their docks, thereby reducing time and transportation costs and reducing environmental hazard.

Conclusion

Mr. Chairman, the long-range viability of the San Francisco Bay Area regional economy is dependent upon the completion of this project. The last significant improvements to this main shipping channel were completed in the 1930's. The world shipping fleet has changed dramatically since that time. The ships are much larger in every respect and unless this channel is improved, the region cannot remain competitive to the detriment of our nation. Given the importance of international trade, the balance of payments and the very large sums collected in customs receipts by the San Francisco District each year, true national interests are involved.

We request the Committee to appropriate the amount of $5,000,000 to enable this project to proceed expeditiously.

Mr. Chairman, we thank the Committee for its attention to our concerns. Thank you.

INTRODUCTION OF SUPPORTING WITNESSES

Mr. LANGNER. We have with us also James Seeley, Washington representative; Joe Zazinovich, commission chairman; Don Mosman, John Ferraro, and Chuck Gibson, commissioners; and Earl Clark, director of construction management. Los Angeles County is represnted by Ted Reed, director of the department of beaches and harbors. From Humboldt Bay Harbor, Recreation and Conservation District, we have Chairman Jack Alderson, who is also chairman of the California Boating and Waterways Commission of that city, and Commissioner Bob Davenport and Jerry Scott.

The Port of Redwood City has two commissioners, Robert Spillers and Walter Small, and Fred DiPietro, port manager.

From the north, we also have Les Westfall, president, Westfall Stevedore Co., Ken Johnson of CONNMASS and president of the California Marine Parks and Harbors Association; Dick Millard, from his own company; John Miles, of Moffat & Nichols, Washington representative for a number of our members and a member of C-MANC; and Del Smith and Michael Cheney.

Before concluding, Mr. Chairman, I mentioned one project which was sort of literally an orphan in the storm. It has no other sponsors other than C-MANC because of the nature of the study. It is the study of the coastal storm and tidal wave damages of California. But it's not for California as much as developing a methodology through the Corps of Engineers which would be applicable to any part of the country. The study is well advanced, and because of the winter storms we have had and the amount of damages to the other part of the country, we do strongly recommend consideration of $1.5 million to hasten this study because of losses that occurred and are occurring require that we find new methods of minimizing such damage.

Thank you. I hope we will be back for the 29th year, Mr. Chairman.

TOTAL 1987 FUNDING REQUEST

Senator BURDICK. Mr. Langner, how does your request compare to the President's 1987 budget?

Mr. LANGNER. We have endorsed the entire request, all the President's recommendations. In about one-third of the instances, largely in operation and maintenance, we have requested that additional funding be considered. We recognize the austere nature of the budget proposals and the necessities of what is happening in the Congress and are sympathetic to this. We are hoping consideration will be given within the confines and restrictions you have to suffer.

Senator BURDICK. In other words, your request is in excess of the President's budget?

Mr. LANGNER. In some instances, yes, and we have so indicated on the schedule, sir. But they are in a minority of instances.

Senator BURDICK. How much do you exceed the budget?

Mr. LANGNER. I don't have the total here at the moment.

Senator BURDICK. We can add it up. [Laughter.]

Thank you very much.

Mr. LANGNER. Thank you.

Senator BURDICK. Now, I have the pleasure of yielding to the real chairman and the chairman of the subcommittee.

Chairman HATFIELD [presiding]. Is Mr. John Madgett present?

Gentlemen, we have a situation where a plane schedule creates a particular time squeeze for the Missouri-Arkansas witnesses. So, we will take their testimony at this time and then return to the California presentation.

So, if Mr. Madgett of the Mo-Ark Association would please come forward.

MISSOURI AND KANSAS FLOOD CONTROL PROJECTS

STATEMENT OF JOHN O. MADGETT, PRESIDENT, MO-ARK FLOOD CONTROL ASSOCIATION

Mr. MADGETT. Thank you very much, Mr. Chairman.

Chairman HATFIELD. We are trying to accommodate as much as we can those of you who travel so far.

Mr. MADGETT. We appreciate the precious time that you have allotted our group.

I am John Madgett. I am appearing on behalf of the Missouri-Arkansas Association and as chairman of the Water Resources Committee of the Greater Kansas City Chamber of Commerce. I will be summarizing the written statements given this committee by the interested parties.

BRUSH CREEK, KS

Your committee, Mr. Chairman, was in a position last year to authorize funds for a study that could alleviate a reoccurring and unnecessary loss in the Brush Creek area, a loss that includes resources, finances, and human lives. Those funds were authorized and very much appreciated, Mr. Chairman. We are here to express our appreciation and to request that funds be authorized to continue those studies to their completion and the extent construction is necessary.

TURKEY CREEK, KS

Part of the funds appropriated were for a preauthorization study for Turkey Creek. The headwaters of Turkey Creek are almost entirely in the State of Kansas, but there are severe restrictions in the Turkey Creek channel resulting in heavy flooding in Missouri and along the Kansas State line where many small businesses are located. Kansas City, KS, shares our concerns and has indicated their support for this study.

As president of the Missouri-Arkansas Flood Control Association, an organization that has been appearing on the Hill for some 35 years and which now has members in the States of Nebraska and Iowa as well as Missouri, Arkansas, and Kansas, I would like to respectfully ask that

Congress appropriate the moneys to continue and complete the funding capabilities of the Corps of Engineers in the Kansas City District for fiscal year 1987.

Unfortunately, we cannot legislate love of our land and concern for our environment for future generations. That can only be taught by the people who preceded us and the concern of the individuals here today who control and operate the present finished public works projects.

We must plan now and continue to plan to conserve our water resources. We can profit from personal experiences and others' mistakes. According to a report issued recently by the United National Economic Commission for Europe, water resources in some European countries are no longer sufficient to meet their demands. East Germany, Hungary, Malta, Cyprus, and the Ukraine are countries which can no longer count on water resources to meet their needs. By the year 2000, Belgium, Luxembourg, Romania, Portugal, and Turkey will probably be unable to meet growing demands. Modern life styles with pollution are blamed for this problem, and needless to say, these countries are launching an all-out program to increase resources and curb pollution.

They had not done their homework, Mr. Chairman. We have been blessed in the United States with abundant resources, but resources are not limitless, and it is this generation's responsibility to do what we can to help preserve them, pass on our inheritance of finished works already in place and instill our concerns for the natural resources and environmental in future generations to come.

Again, Mr. Chairman, thank you very much.

[The statements follow:]

Statement of Mayor Richard L. Berkley of Kansas City, MO

The City of Kansas City, Missouri, is extremely proud of the attention given to our serious flooding problems by this Committee.

We thank you for the starts on the Blue River Channel Improvement project. Construction is well underway and, although bank stability problems have arisen, the problems have been resolved by the Corps of Engineers with equal dispatch.

The appropriation of $350,000 for Fiscal Year 1986 for the Continued Plan and Study for the Brush Creek channel project is most timely and we are working with the Corps of Engineers to expedite this planning process. Here is a good example of the shift from federal to local financing. We are pushing to achieve some relief before another disastrous flood of 1977, which caused the death of 25 persons and damages amounting to $66.4 Million. We urge that the authorization bill now before you be passed. It contains the necessary approval of this project so desperately needed.

We also thank you for the federal appropriation of $200,000 in Fiscal Year 1986 for further studies of the Upper Blue River Basin. The studies are just now reaching the hearing stage for input of information and concern. I expect the Council will soon have a Resolution of support to present for the record on these studies.

We are also thankful for the appropriation of $310,000 for the reconnaissance study of Turkey Creek. Although the headwaters of Turkey Creek are almost entirely in the State of Kansas, the severe flooding occurs in Missouri along Southwest Boulevard where many small businesses are located. This flooding results from severe restrictions in the Turkey Creek channel. When the creek overflows its banks, the overflow flood waters bypass the Greystone Heights diversion tunnel and flood Southwest

Boulevard. Kansas City, Kansas, also shares our concerns and have indicated their support for this study.

Mr. Chairman and Members of the Energy and Water Development Sub-Committee on Appropriations, the City of Kansas City, Missouri, lies in three counties and is the largest single municipality in our metropolitan area known as Kansas City. We historically have had a very good record of independent action to solve our own problems. However, flood water recognizes only the boundaries permitted by nature. Because of the state line, our five adjoining counties, and over 110 municipalities, we need your help. This can best be accomplished by the skills and talents available through the auspices of the U.S. Army Corps of Engineers. This can only be realized by Congress authorizing these most needed flood protection projects.

The City supports the several projects in Missouri and Kansas for which our delegation is appearing today. We further appreciate the opportunity to express our opinions to you regarding the Authorization and Appropriation Bills. We urge your realistic support of these projects and thank you very much for your consideration.

STATEMENT OF RAY KIRK, CHAIRMAN, FLOOD CONTROL AND WATER CONSERVATION COMMITTEE, MO-ARK ASSOCIATION

My name is Ray Kirk. I am a past president of the MO-ARK Association. Currently I am the chairman of the Flood Control and Water Conservation Committee of that organization. Also, I farm approximately 1,600 acres of Missouri River bottomland.

This statement is in support of all the water development and conservation projects supported by the MO-ARK organization.

For the past 35 years MO-ARK has been the leading water resources development organization in the Midwest. We've had the concern, the courage, and the commitment to publicly and politically express our views on development of water resources. Some views may be diverse, they may be opposite, but it has been the expression of views by citizens that has guided Congress in its authorization of these projects.

These authorizations have brought to the Midwest and to the Nation a wide utilization of water, of control of water, and plans for assuring that our future generation will also have these same resources.

Though much has been accomplished in the past, there are many projects which must be completed and many more officially recommended plans which need the consideration and support of this committee; i.e., continued development of coordinated comprehensive flood control plans, soil conservation, watershed programs, water supply, water quality, and practical navigation projects.

Flood control and other interrelated water resource developments have greatly contributed to the vitality and progress in the Midwest and the Nation. Because of the foresight of local citizens and members of the Senate, works have been completed which protect our people and property and greatly enhance the quality of life.

There is much work to be done, however. I, therefore, respectfully urge the Senate to appropriate monies to continue and complete these vital public works projects.

I thank you for your time and attention.

STATEMENT OF ROBERT M. BENHAM, PRESIDENT, COUNTRY CLUB PLAZA MERCHANTS ASSOCIATION, KANSAS CITY, MO

As president of the Country Club Plaza Merchants ASsociation, I represent a group of small to larger merchants, many of whom were devastated by the Brush Creek flood of 1977. The largest of their shops is 80,000 square feet; most are much smaller. Eighty-three percent of the shops are individually owned.

The 1977 flood resulted in a $58,355,000 damage and business loss to merchants in the piaza area. It was not a flood in which the water rose gradually, allowing for evacuation of people and valuables. There was no forecasting the anticipated hour of the crest. A wall of water suddenly crashed into the plaza with such force that it tossed uprooted trees and automobiles about as if they were toys.

As water poured into the plaza, it extinguished pilot lights and gas backed up in the lines until they exploded, demolishing most of an entire block.

When we think of flood damages, we normally think of furniture, buildings, clothing and other personal possessions, etc. In the case of businesses, we also think of the loss of fixtures and merchandise. Of course, the plaza merchants suffered all of these obviouis losses but the Brush Creek flood taught them that when businesses are flooded there are other, equally devastating, if less visible, losses. For example, merchants who had charge customers lost all of the records of their accounts receivable, which meant that they would never be paid for much of the merchandise they had already sold.

The Country Club Plaza is the nation's oldest and finest shopping center. What Fifth Avenue is to New York, and what the Miracle Mile is to Chicago, the plaza is to Kansas City. For more than six decades it has been devoted to providing quality goods and services. Since its shops deal primarily in expensive goods, the monetary loss per square foot of merchandise was staggering. But I feel I should mention here that the fact that merchants deal in expensive merchandise doesn't mean they enjoy any greater profit than those dealing in moderately priced or inexpensive merchandise.

A few businesses didn't survive the flood, but most of them reopened and they reopened faster than anyone dreamed was possible.The courage and dedication of the merchants who fought their way back is almost unimaginable. They not only had the heartbreaking and backbreaking job of the cleanup, they also had to scramble for merchandise to sell when they reopened, and they had to devote long, tedious hours to trying to piece together the many kinds of records necessary to running a business. Above all, they had to find ways to survive financially. Since a flood was the last thing they expected, almost all of them had no flood insurance and so had to bear their losses personally.

The Country Club Plaza is very important to Kansas City. It is an important part of the tax base. It attracts commercial development. It provides jobs to thousands of people. In many ways, it is the very heart of Kansas City. The Plaza Merchants very much appreciate your support in assuring that we will never have to endure such economic and personal devastation again.

STATEMENT OF THE REORGANIZED CHURCH OF JESUS CHRIST OF LATTER DAY SAINTS

Thank you for this opportunity to submit a statement in support of the plan of improvement for flood control and water resources for the Little Blue River in Jackson County, MO.

As this project which is so important to the communities of the Little Blue Valley now nears completion, we wish to express our very sincere thanks. The support you have given in the past provides the opportunity for long-term planning of the valuable land resource of these communities and the families whose lives are affected.

The channel improvement portion of this project is now fully completed. There is the necessity, however, of a $3.8 million appropriation for one of the final completion stages of the last two lakes. We request that this amount be included in the 1987 fiscal year appropriations.

STATEMENT OF THE BUTLER COUNTY (KS) BOARD OF COMMISSIONERS

We urge you to support our efforts to make the Douglass Reservoir project become a reality.

Your support for continued planning budget funds for 1987 would be very much appreciated. This project is important to the continued water supply for Butler, Sedgwick, Cowley and possibly Sumner Counties.

Colonel Tillotson from the Tulsa Corps of Engineers recently met with Butler County commissioners and over 75 people from this area who might benefit from water supplied by the Douglass Reservoir, to update all of us on this project.

There is a tremendous amount of enthusiasm for this project, so any support you can give will be beneficial to many citizens in this area.

MO-ARK WITNESS LIST

Robert M. Benham
President
Plaza Merchants Association
Brush Creek Flood Control Project
Kansas City, MO

Elizabeth Benham
Kansas City, MO

Robert Collins
Port Authority
Kansas City, MO

Fred R. Gibson, Jr.
Manager, Land Development Dept.
J.C. Nichols Company
Kansas City, MO

Gerre Gibson
Kansas City, MO

Pamela Gibson
Kansas City, MO

J.C. Hart, Treasurer
Mo-Ark Association
Brush Creek Flood Control Project
Kansas City, MO

John O. Madgett
President
Mo-Ark Association

Chairman, Water Resources Committee
Greater Kansas City
Chamber of Commerce
Brush Creek Flood Control Project
Kansas City, Missouri

Max Norman
Vice President
Greater Kansas City
Chamber of Commerce
Brush Creek Flood Control Project
Kansas City, MO

Bill Anderson
Johnson County Water District No. 1
Kansas City, MO

Chairman HATFIELD. Thank you very much for your testimony. It will be very helpful.

Now, I ask Mr. Gordon Cologne, the chairman of the California Water Commission, if he will coordinate this next part of the hearing. We are happy to welcome you, sir, and all of your colleagues. We are very happy to work with you in a neighboring State, as well as a committee with a keen interest in these problems.

CALIFORNIA WATER RESOURCE DEVELOPMENT PROJECTS

STATEMENT OF GORDON B. COLOGNE, CHAIRMAN, CALIFORNIA WATER COMMISSION

Mr. COLOGNE. Thank you, Mr. Chairman. We appreciate the kind accommodation to us, too, in having this hearing, as well as the House hearing on the same day. That is a real service to us, and we want to also express our gratitude for the cooperation this committee has given us in the past.

As you know, the California Water Commission is charged with the responsibility of representing the State of California as well as local interests before this committee. We are here to present our projects. I wish to tell you at the beginning that we have agreed to a budget which is exactly the same as the President is offering. We are not asking for a penny more. The program put forth by the President is a good one for the State.

Chairman HATFIELD. Do you feel boxed in at all by that position you have had to take coming from California?

Mr. COLOGNE. Not at all. [Laughter.]

Chairman HATFIELD. I just wanted to make sure.

Mr. COLOGNE. We are used to the President's actions in the past. We have learned to live with them and have come out very well.

I should explain that we realize from time to time there are additional funds because certain projects do not go forward as rapidly or are dropped, and we would like to express those projects which we consider of prime importance which should be considered by this committee if there are any additional funds. But let me make it clear, again, we are not asking for these projects unless additional funds are available.

RECOMMENDED CHANGES TO 1987 FUNDING REQUEST

Our witnesses will speak very birefly on the individual projects, but let me just summarize them quickly. We have submitted a written statement which has been filed with the committee.

On Caliente Creek, for some reason, the Corps eliminated some $80,000. I realize the committee is not used to thinking in terms of that small of a figure, but $80,000 would complete that project, that study, as scheduled in 1987. We would hope that that $80,000 could be found.

As the chairman is aware, we had some serious flooding problems in northern California last year. Had the budget come after those floods, we would probably have had something included for the levee studies.

Unfortunately, we didn't know about that, the seriousness of the problem, until after this budget was prepared.

We have asked for a reassessment of the levees which were built between 1916 and 1942 under the northern California stream, Sacramento River flood control study. No comprehensive study has been done of those levees. It is a very serious problem, and we would hope that some funds can be found.

Incidentally, in that regard, we have estimated the cost to be about $400,000, and the Corps of Engineers has told us that it is in their ability to perform that kind of work if the appropriation is available.

Third, the Santa Anna River, Orange County investigation, the final report on that, there is $50,000 in the budget, and we are requesting that if funds can be found, that an additional $100,000 could be given to us so that study can be completed this year. That is an area of serious concern to us because of the number of people who live in that area. If a sizable flood should hit there, it would devastate the area. It is a fast-growing area; it needs the help.

The other two projects are under the Bureau of Reclamation. The San Joaquin Valley conveyance study, we are asking for some money there so that that project can continue. We hate to see the interruption of that study, because it is a very worthwhile project.

The Delta Water Management Program is also one that we need support for. That involves the quality of water in not only the delta area, but also to the Suisun Marsh area and some of the south delta areas. That, together with that assessment of the levee system, is important, not only to the delta area, but to the entire State. Our whole water system is based on the quality and the quantity of water in that delta, and so those two items were considered of prime importance in this funding program.

Any assistance that you can give us in those regards would be appreciated.

With that, I will conclude my remarks and call on our supporting witnesses representing specific areas and projects.

[The statement follows:]

STATEMENT OF THE CALIFORNIA WATER COMMISSION

Mr. Chairman and members of the Committee, I am Gordon Cologne, Chairman of the California Water Commission, an official agency of the State of California. The Commission is composed of nine representative citizens from throughout the State. The Commission is charged by statute with representing State and local interests before this Committee. We have coordinated our presentation with representatives of local agencies. On behalf of the California Water Commission, I would like to express our sincere appreciation for the support this Committee has given California water resources and flood control appropriations over the years. I am privileged to appear before you with the official recommendations of the State of California for fiscal year 1986-87 appropriations.

FEDERAL-STATE COORDINATED OPERATION AGREEMENT

I would like to speak first, as we did last year, on a matter of significant importance to both federal and state interests -- the coordinated operation of the Federal Central Valley Project (CVP) and the California State Water Project (SWP). Both the SWP and CVP projects divert surplus water from Delta channels and can optimize their respective shares of this water by coordinating their operations from a common pool, since the SWP has greater diversion capacity and the CVP has greater storage capacity. On May 30, 1985, the State Department of Water Resources (Department) and the U. S. Bureau of Reclamation (Bureau) executed an agreement whereby both agencies would jointly share in maintaining water quality in the Sacramento-San Joaquin Delta.

H.R. 3113 and S. 1192 would authorize the Secretary of the Interior to execute the Coordinated Operation Agreement. H.R. 3113 has been approved by the House. S. 1192 has been approved by the Senate Committee on Energy and Natural Resources.

On January 10, 1986, the Commission adopted a resolution supporting the Coordinated Operation Agreement and urging approval of legislation conforming to the provisions of H.R. 3113 without substantive amendment. We reaffirm this position.

CORPS OF ENGINEERS

We support the funding provided for the for the following projects:

Investigations, Advanced Planning, and Design

a. The proposed new study of the San Rafael Canal in Marin County to examine serious flooding problems caused by a combination of runoff and high tides in San Francisco Bay.

b. The Los Angeles County Drainage Area Review, one of the Corps of Engineers' (Corps) most urgent studies, is examining the adequacy of completed flood control channels and dams protecting densely developed portions of Los Angeles County. Increased runoff caused by the development in the watershed seriously reduces the level of protection provided by the LACDA project to the point where the existing project can no longer control a 50 year flood event.

c. The Corps' continuing examination of flooding problems along the San Francisco Bay Shoreline in Alameda, San Mateo, and Santa Clara Counties.

d. The Corps' feasibility studies of the North Bay shoreline in Sonoma, Napa, and Solano Counties.

e. Investigation of the Northern California Streams, Dry Creek watershed, located in the portion of Sacramento and Placer counties where urbanization of the Sacramento metropolitan area is occurring. The communities of Roseville and Rio Linda were severaly damaged by the February 1986 floods.

f. On the Kaweah and Tule Rivers in the San Joaquin River watershed, the Corps' evaluation of the feasibility of providing additional storage for flood protection and possible increased conservation storage.

g. Interim No. III of the Santa Ana River Basin and Orange County Study, which addresses some very serious flooding problems in the rapidly urbanizing Orange County area. The communities in this basin suffered severe damage in the 1983 floods.

h. The Santa Ana River Main Stem project, for which the Corps has completed the study of upstream storage alternatives to the Mentone Dam. A report has been forwarded to the Board of Engineers for Rivers and Harbors for review. The proposed alternative is a reservoir further upstream. We are supporting use of a portion of the $3.5 million in the President's budget for design of an upstream project, when one is approved by the Board.

New Starts

Where local interests will share the cost of new construction projects, the Commission supports the new starts.

a. The Pajaro River project which will protect portions of the City of Gilroy from damaging flood flows along Uvas Creek. The plan of improvement provides for construction of a levee and utility relocations.

b. The Redbank and Fancher Creeks project in the Fresno-Clovis Metropolitan area which consists of modifications to the existing Big Dry Creek Dam, construction of the Fancher Creek Dam, and three detention basins.

c. The Fairfield Vicinity Streams project, a 1985 new start, involving channel improvements. The local cost sharing agreement is being negotiated.

d. Negotiations are also underway between the Corps, Merced County, and the State Reclamation Board on a cost sharing agreement for the Merced County Streams project. The agreement will include staging of facilities as well as cost sharing.

d. Negotiations between the Corps and Contra Costa County for the Wildcat and San Pablo Creeks project, which is nearing initiation of construction, are currently underway to develop an appropriate cost sharing agreement.

Construction

Construction funding in the FY 86-87 budget provides for continuing construction of flood control projects in California. We support these projects.

a. On the Sacramento River, Chico Landing to Red Bluff project, the State Reclamation Board intends to install a test section of bank protection at the Woodson Bridge site using the Palisades method.

b. Corte Madera Creek flows into the west side of the San Francisco Bay. Funding will allow initiation of construction of the uncompleted upper portion of the project.

c. Dry Creek (Warm Springs) Dam and Reservoir located in the Russian River watershed was heavily impacted by the February 1986 floods. Dry Creek Dam was recently completed and substantially reduced the flood damaging flows in the Russian River. Funding will allow construction of onshore recreation facilities to continue.

d. The Los Angeles County Drainage Area Rehabilitation project involves rehabilitation of the Los Angeles River channel and levees. Due to erosion, major project features have reached a point of advanced deterioration.

e. On the Lower San Joaquin River, the Corps is proceeding with selective channel clearing and removal of debris to improve the flood carrying capacity of the river.

f. Construction of the Sweetwater River flood control project in San Diego County will continue. Construction of the channel improvements is being completed in cooperation with highway construction schedules.

g. Construction will continue on the channel improvements for Walnut Creek. The project extends from the City of Walnut Creek to Suisun Bay.

h. Construction of onshore recreation facilities at New Melones reservoir will continue.

BUREAU OF RECLAMATION

We are supporting FY 86-87 funding for planning and construction programs of the Bureau of Reclamation, as follows:

a. Appropriations in FY 87 will fund the contracts to complete construction of facilities of the San Felipe Division of the CVP to convey water to Santa Clara and San Benito Counties. Supplemental water will be provided for municipal, industrial, and agricultural use.

b. The joint federal-state study of potential solutions to the irrigation drainage problems of the San Joaquin Valley west side and the San Luis Unit of the CVP, in particular, will continue. At the federal level, the study involves the U. S. Fish and Wildlife Service, Geological Survey, and Bureau of Reclamation. State agencies participating in the interagency investigations are the Departments of Water Resources and Fish and Game. David Kennedy, Director of the California Department of Water Resources, is chairing the federal-state Policy and Management Committee for these studies during 1986. He has broadened participation in this Committee to include representatives of west side San Joaquin Valley agencies.

c. The Commission is participating in the Federal-State Auburn Dam Task Force. The Task Force was recently briefed on the findings of the study by Bechtel Engineers and the analysis of those findings by federal and state agencies. Four alternatives were selected for further study:
    --A concrete gravity dam costing $823.5 million
    --A roller compacted concrete gravity dam costing $685.8 million
    --A rockfill dam with concrete face estimated to cost $755.9 million
    --A slightly smaller, compacted concrete dam a mile downstream from the other proposed alternatives, estimated to cost $594.4 million.

   On February 7, the Auburn Dam Working Group received recommendations on financing building of the project. At that meeting the Group decided the Corps should be asked to reassess the flood control benefits and the flood control alternatives for the American River. The reassessment would be made hopefully within a year. Meetings between the Corps, Bureau, and the Department are being arranged.

Small Reclamation Project Loans

The Small Reclamation Projects loan program is important to California and we believe to the entire western United States. We support funding of the loan applications in the President's budget, as described below:

a. Eastern Municipal Water District in Riverside County is constructing a distribution system to connect the District's distribution system to Metropolitan Water District's system and to existing storage at Lake Skinner and Perris Reservoir.

b. Elsinore Valley Municipal Water District is constructing levees and channels to stabilize Lake Elsinore in Riverside County.

c. Oakdale Irrigation District is converting unlined irrigation canals to concrete pipeline and installing water measuring devices.

d. Rancho California Water District in Riverside County is constructing water wells, recharge basins, and pipelines.

e. San Benito County Water Conservation and Flood Control District is constructing a pipeline distrubution system to deliver water from the San Felipe Unit of the CVP.

f. Santa Ana Watershed Project Authority is constructing pipelines, storage reservoirs, and pumping stations for municipal, industrial, and agricultural water uses.

We also support funding for two new Small Reclamation Project loans:

a. United Water Conservation District in Ventura County proposes to construct a diversion dam on the Santa Clara River, a conveyance canal, and a desilting basin.

b. San Bernardino County (Day Creek) proposes to rehabilitate and construct water conservation basins, construct a ground water spreading basin, and construct flood control channels.

Congress is considering reauthorization of the Small Reclamation Projects loan program. The Commission supports this reauthorization. Local agencies have shared in the cost of financing of projects constructed under this program. There have been no defaults on repayments of the loans. The loan program has allowed local agencies to use their initiative and creative ideas to plan and construct the projects with relatively low administrative costs.

Other Programs

a. The President's budget contains funding for the Trinity River Restoration Program. The program involves construction of the Buckhorn Mountain Debris Dam and removal of sediments from the Trinity River. The costs are shared by the State and Federal Governments. In 1985 the Commission urged that this program get underway and continues to support this program.

b. The Bureau's fish passage improvement program at the Red Bluff Diversion Dam, the Bureau's Delta Support Studies, and the Bureau's Off Stream Storage Investigation are all closely coordinated with those of the state. We support funding for these programs. The Spring Creek Toxicity Control project is a new program of the Bureau in Shasta County. The Bureau will develop, in coordination with appropriate federal and state agencies, a water management plan to reduce the adverse effects of the toxics in Spring Creek.

c. We support the new investigation of problems created by high ground water in the San Bernardino Valley. Basements are being flooded. Studies need to be made under various conditions of recharge and withdrawal. The Santa Ana Watershed Project Authority is sharing the costs of the investigation.

d. The Colorado River Board is supporting the Colorado River Salinity Control programs, the Colorado River front work and levee system, advanced planning for the All American Canal relocation, and the investigation of the Imperial Irrigation District Canal Lining and System program. We support funding for these programs.

RECOMMENDATIONS FOR REPROGRAMMING OF FUNDS

The Commission is recommending that funds be reprogrammed into the following five investigations, provided funds can be made available within the allocation in the President's FY 86-87 budget.

	President's Budget	Funds Recommended Thru Reprogramming
Corps of Engineers		
Caliente Creek	120,000	200,000
Northern California Streams Sacramento River Flood Control Interim	-	400,000
Santa Ana River and Orange County - Final Report	50,000	150,000
Bureau of Reclamation		
San Joaquin Valley Conveyance	-	500,000
Delta Water Management Program	-	400,000

Following is a brief summary of the need for reprogramming funds:

Caliente Creek -- Kern County Water Agency has executed the first cost sharing agreement for feasibility studies to be implemented in the nation. The agreement provides for an appropriation of $200,000 in FY 86-87, the second year of the investigation. The President's budget contains $120,000. The Commission is supporting an appropriation of an additional $30.000. This funding will provide for completion of the draft report in June 1987.

Northern California Streams - Sacramento River Flood Control Interim -- In February 1986, California experienced one of the most severe storms in its history. This storm was a tropical pattern spanning 2,500 miles from below the Hawaiian Islands to California. The storm brought flooding to much of Northern and Central California, prompting a Declaration of Emergency by Governor Deukmejian for 36 California counties. Runoff in Oroville and Folsom Reservoirs encroached on flood reservation space to the extent that record releases became necessary. The American and Sacramento Rivers reached their highest levels since construction of the present levee system 30 to 70 years ago.

The State Reclamation Board is reaffirming its request that the Corps initiate a reconnaissance level investigation to assess the long term integrity of the Sacramento River Flood Control System. The Board has experienced an increasing frequency of problems, such as levee subsidence, levee slips, sedimentation deposition at structures and in flood channels, and variations from flood flows. The Department of Water Resources also sees an urgent need for these studies. The Commission supports an appropriation of $400,000, as recommended by the Board and the Department.

Santa Ana River Basin and Orange County - Final Report -- This study addresses serious urban flooding problems in areas of Orange, Riverside, and San Bernardino Counties, one of the fastest growing regions in the nation. The incomplete portion of the study includes two interim studies and a final report, which will consider levees and channels on all streams not covered in the interim studies. With an additional $100,000, the final report will be completed in 1988.

San Joaquin Valley Conveyance Study -- The financial feasibility and environmental assessment of the routing for additional conveyance of the CVP water to the overdrafted San Joaquin Valley is under preparation by the Bureau. The funds for completion of the study are included in the 1986 budget. The study is a coordinated investigation between the Bureau, the Department, and the Mid-Valley Water Authority.

Legislation, S. 1898 (Wilson) and H.R. 3182 (Lehman, Coelho, Pashayan, and Thomas) has been introduced in both the Senate and House for authorization of the Mid-Valley Canal Project.

The Commission is recommending an appropriation of $500,000 to continue the Bureau's San Joaquin Valley Conveyance Project, provided the funds can be made available from existing Bureau general investigation appropriations. These funds will be used for advance planning and preliminary engineering design. The recommended $500,000 will assure orderly development of Mid-Valley Canal project plans.

Delta Water Management Program — We have previously commented on the need for approval of the Federal-State Coordinated Operation Agreement which was negotiated by the Bureau and the Department.

In the fall of 1985, an agreement was reached by the Department, the Bureau, California Department of Fish and Game, and the Suisun Resource Conservation District on preservation of the Suisun Marsh. The agreement calls for phased construction of new facilities to protect water quality and wildlife in the marsh. Legislation to authorize the Secretary of the Interior to execute the agreement is being considered by the Congress.

The Department is negotiating with the South Delta Water Agency on an interim plan to minimize the impacts of project pumping on water levels in the sloughs from which the agency diverts water. The Department of Fish and Game is participating in the negotiations. The Corps is involved in studies with the Department on the complex flood protection and water transport problems in the Sacramento-San Joaquin Delta.

It is important that the Bureau participate in these programs in the Delta on a continuing basis. The FY 86-87 budget will not fund an appropriate level of activity. Accordingly, the Commission is recommending an appropriation of $400,000 for a Delta Water Management Program. This program will allow the Bureau to participate with the Department, Corps, Department of Fish and Game, and local agencies, in these very important ongoing programs in the Sacramento-San Joaquin Delta.

Thank you for the opportunity to submit California's recommendations.

CALIFORNIA WATER COMMISSION
FEDERAL FLOOD CONTROL AND RECLAMATION PROGRAMS IN CALIFORNIA FOR FISCAL YEAR 1986-87
(In Thousands of Dollars)

CWC NO.	PROJECT & COUNTY	TOTAL FEDERAL COSTS	ESTIMATED COSTS THRU 9/30/86	FUNDS AVAILABLE 1985-86	PRESIDENT'S BUDGET 1986-87	COMMISSION'S FINAL RECOMMENDATION
CORPS OF ENGINEERS						
GENERAL INVESTIGATIONS - SURVEYS						
3A.	Caliente Creek Kern (Kern County Water Agency will fund one half of the investigation. Commission supports reprogramming an additional $80 thousand if funds can be made available within President's budget.)	1,778	1,589	200	120	200
3B.	Dry Creek Placer, Sacramento	825	300	150	100	100
5.	Imperial Valley	-	-	-	-	-
6.	Los Angeles County Drainage Area	4,510	3,914	370	1,150	1,150
6A.	Marin County Shoreline-San Rafael Canal	260	0	-	260	260
7A.	Sacramento-San Joaquin Delta Investigation	2,900	2,168	-	250	250
7B.	Northern California Streams, Cottonwood Creek Shasta, Tehama (Funds are available for the Corps to provide analysis of flood control benefits of proposed dams.)	-	-	-	-	0

CWC NO.	PROJECT & COUNTY	TOTAL FEDERAL COSTS	ESTIMATED COSTS THRU 9/30/86	FUNDS AVAILABLE 1985-86	PRESIDENT'S BUDGET 1986-87	COMMISSION'S FINAL RECOMMENDATION
9.	Sacramento River Flood Control System Interim (The Commission supports reprogramming $400 thousand if funds can be made available within President's budget.)	-	-	-	-	400
10.	San Francisco Bay Shoreline Several	4,280	2,645			
10-2.	North Bay Interim Napa, Solano	1,005	135	280	400	400
10-3.	San Mateo-Northern Alameda Interim	1,360	585	50	440	440
11.	San Joaquin River Basin					
11-2.	Tule River	650	250	250	100	100
11-3.	Kaweah River	715	285	200	100	100
14.	Santa Ana River and Orange County Riverside, Orange, San Bernardino	9,500	7,777			
14-2.	Interim No. III Orange County Tributaries Coyote Creek, Talbert, East Garden Grove, Wintersburg, Huntington Beach, and Greenville-Banning Channels	2,178	1,015	350	550	550
14-3.	Final Report (Commission supports reprogramming an additional $100 thousand if funds can be made available within the President's budget.)	-	-	174	50	150

CWC NO.	PROJECT & COUNTY	TOTAL FEDERAL COSTS	ESTIMATED COSTS THRU 9/30/86	FUNDS AVAILABLE 1985-86	PRESIDENT'S BUDGET 1986-87	COMMISSION'S FINAL RECOMMENDATION
	GENERAL INVESTIGATIONS - CONTINUATION OF PLANNING AND ENGINEERING					
18.	Cache Creek Lake, Yolo	2,300	1,470	600	500	500
18A.	Guadalupe River Santa Clara, Alameda	1,500	265	400	750	750
21.	Santa Ana River Main Stem Several (The Commission supports using a portion of the $3.5 million for continuing planning and engineering of the upstream flood control storage facilities.)	17,300	13,025	4,000	3,500	3,500
	CONSTRUCTION - GENERAL					
25.	Corte Madera Creek Marin	14,000	8,995	600	2,000	2,000
27.	Dry Creek (Warm Springs Lake) Sonoma	343,000	293,435	11,800	11,000	11,000
27A.	Fairfield Vicinity Streams Solano	Federal 9,630 Non-Federal 11,670 Total 21,300	1,867	-	3,000	3,000
27B.	LACDA Rehabilitation Los Angeles	29,700	19,220	11,800	8,900	8,900
27D.	Lower San Joaquin River and Tributaries	5,600	3,150	2,900	1,500	1,500
28.	Merced County Streams	Federal 57,900 Non-Federal 46,100 Total 104,000	6,270	-	3,000	3,000

CWC NO.	PROJECT & COUNTY	TOTAL FEDERAL COSTS	ESTIMATED COSTS THRU 9/30/86	FUNDS AVAILABLE 1985-86	PRESIDENT'S BUDGET 1986-87	COMMISSION'S FINAL RECOMMENDATION
29.	New Melones Lake Calaveras, Tuolumne, Stanislaus	382,000	347,338	4,200	1,900	1,900
29A.	Pajaro River-Uvas Carnadero Santa Clara	Federal 1,820 Non-Federal 4,020 Total 5,840	560	-	500	500
29B.	Redbank and Fancher Creeks Fresno	Federal 55,200 Non-Federal 18,300 Total 73,500	730	700	2,000	2,000
30.	Sacramento River-Major and Minor Tributaries Several	11,900	11,551	200	200	200
31.	Sacramento River Bank Protection Several	90,000	54,846	3,500	7,000	7,000
32.	Sacramento River, Chico Landing to Red Bluff	30,000	10,895	2,500	600	600
32A.	Sacramento River Flood Control Project	74,950	69,475	250	300	300
34.	San Luis Rey River San Diego	29,700	2,024	-	-	-
35.	Santa Paula Creek Ventura (Funds not needed in FY 86-87)	36,200	4,791	-	-	-
36.	Sweetwater River San Diego	24,600	13,125	6,000	7,200	7,200
37.	Walnut Creek Contra Costa	62,800	44,176	6,000	11,100	11,100

CWC NO.	PROJECT & COUNTY	TOTAL FEDERAL COSTS	ESTIMATED COSTS THRU 9/30/86	FUNDS AVAILABLE 1985-86	PRESIDENT'S BUDGET 1986-87	COMMISSION'S FINAL RECOMMENDATION
38.	Wildcat and San Pablo Creeks Contra Costa	Federal 17,600 Non-Federal 13,300 Total 30,900	3,130	1,700	4,000	4,000
	Total Corps of Engineers				$72,470	$72,470 *
BUREAU OF RECLAMATION PROGRAMS						
41.	Sacramento River Division	352,206	301,513	5,521	1,060	1,060
47.	Auburn-Folsom South Unit	2,093,948	339,635	3,655	1,000	1,000
50.	San Luis Unit	1,261,092	496,066	15,371	12,172	12,172
	MISCELLANEOUS PROJECT FACILITIES					
60.	Trinity River Restoration Program	62,390	1,450	500	4,650	4,650
61.	Delta Support Studies Including Suisun Marsh (Budgeted $372-Miscellaneous Project Programs; $408-Operations and Maintenance; and $228-Planning)	Continuing	10,748	1,113	1,008	1,008
62.	San Felipe Division Santa Clara, San Benito	342,410	282,758	41,384	10,642	10,642
	OTHER PROJECTS					
71.	Santa Margarita (Lower Colorado Region) San Diego (Project not yet authorized)	220,866	-	-	-	-

*The Commission is supporting reprogramming an additional $580 thousand if funds can be made available within the President's budget.

CWC NO.	PROJECT & COUNTY	TOTAL FEDERAL COSTS	ESTIMATED COSTS THRU 9/30/86	FUNDS AVAILABLE 1985-86	PRESIDENT'S BUDGET 1986-87	COMMISSION'S FINAL RECOMMENDATION
72A.	San Benito County Water Conservation and Flood Control District	19,716	19,351	2,647	365	365
73A.	San Bernardino County (Day Creek)	13,500	-	-	1,000	1,000
73B.	Eastern Municipal Water District Riverside	25,720	21,320	4,000	1,070	1,070
74A.	Elsinore Valley NWD Riverside	25,975	500	500	1,000	1,000
75.	Oakdale Irrigation District Stanislaus, San Joaquin	17,774	13,635	5,356	4,100	4,100
76A.	United Water Conservation District Ventura	19,556	-	-	570	570
77A.	Rancho California Water District Riverside	20,940	100	100	2,533	2,533
78A.	Santa Ana Watershed Project Authority Several	14,917	4,000	4,000	8,714	8,714
	FEASIBILITY INVESTIGTIONS					
	SPECIAL INVESTIGATIONS (Mid-Pacific Region)					
79A.	Off Stream Storage	900	150	150	350	350
80.	San Joaquin Valley Conveyance Study	1,196	1,196	743	-	500
80A.	Delta Water Management Program (The Commission supports reprogramming an additional $400 thousand if funds can be made available within the President's budget.)	-	-	-	-	400

CWC NO.	PROJECT & COUNTY	TOTAL FEDERAL COSTS	ESTIMATED COSTS THRU 9/30/86	FUNDS AVAILABLE 1985-86	PRESIDENT'S BUDGET 1986-87	COMMISSION'S FINAL RECOMMENDATION
82.	Minor work in connection with completed projects	Continuing	150	150	125	125
84.	Environmental and Interagency Coordination Activities	Continuing	10,556	749	800	800
85A.	Refuge Water Supply	250	80	80	170	170
86.	Technical Assistance to States	Continuing	333	176	175	175
87.	Spring Creek Toxicity Control Study Shasta	-	-	-	20	20
	COLORADO RIVER SALINITY CONTROL PROJECT (Lower and Upper Colorado Region)					
88.	Paradox Valley Unit	84,072	22,191	1,732	12,282	12,282
89.	Grand Valley Unit	243,043	49,522	5,281	12,055	12,055
90.	Las Vegas Wash Unit	129,799	7,965	75	75	75
90A.	Lower Gunnison Basin Unit	1,563	1,463	275	100	100
91.	Colorado River Water Quality Improvement Feasibility Investigations Multi-state	58,118	45,060	5,469	3,620	3,620
91A.	Colorado River Basin Salinity Control Project - Title I ($95 thousand for work in California. Additional funds appropriated for work in other states.)	464,763	290,970	91	95	95

CWC NO.	PROJECT & COUNTY	TOTAL FEDERAL COSTS	ESTIMATED COSTS THRU 9/30/86	FUNDS AVAILABLE 1985-86	PRESIDENT'S BUDGET 1986-87	COMMISSION'S FINAL RECOMMENDATION
	OTHER PROGRAMS (Lower Colorado Region)					
94.	All American Canal Relocation Advanced Planning Imperial	930	300	300	630	630
95.	Imperial Irrigation District Canal Lining and System Improvement Investigation	486	288	200	72	72
97.	San Bernardino Ground Water Investigtion	500	-	-	150	150
98.	Colorado River Front Work & Levee System ($4.765 million for work in California Additional funds appropriated for work in other states.)	158,812	41,672	5,211	4,765	4,765
99.	Minor Work in Connection with Completed Projects	Continuing			45	45
100.	Environmental and Interagency Coordination Activities	Continuing			600	600
101.	Technical Assistance to States	Continuing			60	60
	Total Bureau of Reclamation				$86,073	$86,073 *
Total Corps of Engineers and Bureau of Reclamation					$158,543	$158,543 **

*The Commission supports reprogramming $400 thousand for the Bureau if funds can be made available within the President's budget.

**The Commission supports reprogramming $980 thousand for Corps and Bureau if funds can be made available within the President's budget.

Chairman HATFIELD. Mr. Cologne, I wonder if I could ask you, as I understand your statement, you are asking that funds be reprogrammed to increase the funding on five items?

Mr. COLOGNE. Yes, sir.

Chairman HATFIELD. Can you suggest which California projects or studies we could take these funds from, so as not to increase the total level under the Gramm-Rudman and a few other restrictions? Where would you like to see the committee get these funds?

Mr. COLOGNE. With respect for my life, I will not attempt to identify the projects. [Laughter.]

Chairman HATFIELD. You can communicate to me in private. [Laughter.]

Mr. COLOGNE. My indication from my commission is that if any of these budgeted projects could fail for one reason or another, we are not suggesting that any of them be deleted. We are simply saying for some reason or another, either because they cannot go ahead because of local contributions, that these funds be taken from that area. Let me say in all of these projects that there is State and local funding. These are not projects that are totally supported by the Federal Government.

Chairman HATFIELD. One other quick question. You referred to the Auburn Dam project as to why the working group felt it was necessary to have a reassessment on the flood control benefits and alternatives.

Mr. COLOGNE. I am going to let that area speak to that specifically, but let me just say that the last flood, that area was critical. Had there been another inch of rain we would have lost some area and the city of Sacramento would have felt the impact of that flood. It is of very serious concern to us in that whole area to make sure that we have adequate flood control in that locality.

Chairman HATFIELD. Please proceed, Mr. Cologne.

Mr. COLOGNE. First of all would be the Board of Reclamation, and Ray Barsch is here for that.

Mr. Barsch?

STATEMENT OF RAY BARSCH, GENERAL MANAGER, STATE RECLAMATION BOARD

Mr. BARSCH. Mr. Chairman, members of the committee, I am Ray Barsch, general manager of the State Reclamation Board. I also appreciate the opportunity to appear before you with the recommendations that were adopted by the board on March 21 of this year.

With me today is Wallace McCormack, president of the reclamation board.

The board strongly urges appropriations in the amount listed in the summary for the 16 projects which are directly related to flood control in the Central Valley. Local representatives will cover those projects, but I would like to emphasize one in here because it is the highest priority on the board's list; the Sacramento River flood control project interim. As stated in February of this year, central California experienced one of the most severe floods in recorded history. The Sacramento River flood control project, which is 50 to 100 years old, was severely tested and resulted in a levee failure on the Yuba River. This flooded thousands of homes. There were other near failures in several other areas of the city.

The State Reclamation Board is again requesting the Corps of Engineers be funded so that they can begin this vitally needed investigation.

Thank you, Mr. Chairman.

Chairman HATFIELD. Thank you very much.

[The statement follows:]

STATEMENT OF THE CALIFORNIA RECLAMATION BOARD

THE RECLAMATION BOARD'S RECOMMENDATIONS FOR FEDERAL FLOOD CONTROL PROJECTS

Summary
(in thousands of dollars)

Corps of Engineers' Projects	Page	Recommendations 1986-87
I. Surveys	1	
Northern California Streams	1	
-- Dry Creek	1	100
-- Sacramento River Flood Control System Interim	1	400*
Sacramento-San Joaquin Delta Investigation	2	250
San Joaquin River Basin	2	
-- Caliente Creek		200**
-- Tule River		100
-- Kaweah River		100
II. General Investigations	2	
Cache Creek Basin	2	500
III. Construction	3	
Redbank and Fancher Creeks	3	2,000
Fairfield Vicinity Streams	4	3,000
Lower San Joaquin River and Tributaries	5	1,500
Merced County Streams	5	3,000
Sacramento River and Major and Minor Tributaries	5	200
Sacramento River Bank Protection	5	7,000
Sacramento River - Chico Landing to Red Bluff Project	6	600
Sacramento River Flood Control Project	6	300
U. S. Bureau of Reclamation Projects	7	
Auburn Dam	7	1,000

* The Board supports reprogramming $400,000 if funds can be made available within the President's Budget.

** The Board supports reprogramming an additional $80,000 if funds can be made available within the President's Budget.

The Reclamation Board, as the State agency which furnishes required local assurances for federal levee and channel projects in California's Central Valley, respectfully submits this statement of support for the following projects.

While all projects are important to the health, safety, and well-being of Central Valley residents, the surveys and projects described as follows are of particular importance to The Reclamation Board.

I. Surveys

A. Northern California Streams.

This survey, authorized in 1958 and 1962, is a study of all the streams in Northern California that flow into the Pacific Ocean, including the Sacramento River and its tributaries, in regard to flood control measures.

Dry Creek

A feasibility report on Dry Creek will be completed by October 1988. Funds for this study are being shared on a 50-50 basis with Sacramento and Placer Counties. Serious flooding occurred in Roseville and Rio Linda in February 1986 emphasizing the need for flood control measures in this area. The Board recommends $100,000 to continue the feasibility study in fiscal year 1986-87.

Sacramento River Flood Control System Interim

A reconnaissance-level investigation would be initiated in fiscal year 1987. The Reclamation Board strongly recommends support for this study. The Board is concerned about the long-term integrity of the Sacramento River Flood Control System. The project is an integral part of the State's flood control plan and protects over one million people and billions of dollars in property. Portions of the project facilities are now over 100 years old, most are at least 50 years old. The Board has experienced an increasing frequency of problems, such as levee subsidence, levee slips, sediment deposition at structures and in flood channels and variations from the design flows. A break in the project levee on the Yuba River flooded thousands of homes in February 1986, and other areas within the project were seriously stressed. The Board believes it is time to consider the future of this project and the necessary measures required to sustain it as a viable, cost-effective, flood control system for the next 50 to 100 years. The Board recommends $400,000 for this study if funds can be made available within the President's Budget.

B Sacramento-San Joaquin Delta Investigation:

Study area is located in Sacramento, Yolo, San Joaquin, Contra Costa, and Solano Counties and extends from the southern limits of the City of Sacramento, the City of Stockton and west to Suisun Bay. Area consists of about 700,000 acres of land segregated into some 100 tracts and islands, bounded by interconnecting waterways, which are confined by 1,100 miles of levees which normally prevent the lands from being inundated by high tides or high stages. Lands within these levees are among the most productive agricultural lands in the State. The survey considers flood control, associated recreation and environmental problems, Delta water transfer and salinity intrusion problems. A critical need for levee rehabilitation throughout the Delta exists.

Current activities include coordination with the U. S. Bureau of Reclamation and State Department of Water Resources to define the scope of the needed study. In 1986, the study will continue using carryover funds. The flood control plan will be presented in the Delta

Levees Feasibility Report which will be completed in September 1987. The Reclamation Board recommends $250,000 to continue this investigation.

C. San Joaquin River Basin:

This survey, authorized in 1964 and initiated in 1968, encompasses the southern portion of the Central Valley, including part of the Delta-Central Sierra area and all of the San Joaquin and Tulare Lake Basins. The study will investigate the problems of flood control, irrigation, municipal water supply, power, recreation, fish and wildlife, and water quality. The study area is the site of many complex water supply and water transportation problems. Flooding is a major problem in the study area. During the severe floods of 1969, 1983, and 1986, the area experienced extensive damages. Projects to be considered include: dams and reservoirs, stream diversion, bank protection, and levee and channel improvement.

The Reclamation Board recommends funding in the following amounts for fiscal year 1986-87:

Caliente Creek	-	$200,000*
Tule River	-	$100,000
Kaweah River	-	$100,000

* The Board supports reprogramming an additional $80,000 if funds can be made available within the President's Budget.

II. General Investigations

A. Cache Creek Basin:

The Corps of Engineers has completed its feasibility report regarding water resources development in the Cache Creek Basin. The report recommends enlarging the outlet channel of Clear Lake and constructing a bypass channel to reduce flooding of development around the Lake, enlarging and raising of levees around the existing settling basin near the mouth of Cache Creek to increase the Basin's sediment storage capacity, and establishing a National Wildlife Refuge in the existing Cache Creek Settling Basin at a total cost of $17,960,000.

This report states that a major flood problem exists along the rim of Clear Lake. Historical inflows to the Lake temporarily raise the lake level causing significant damage to lakefront development. Serious flood damages occurred in 1958, 1970, 1983, and 1986 causing estimated damages of $900,000, $500,000, $1,500,000, and $3,500,000, respectively. This problem can be economically solved by increasing the discharge capability of the Lake's outlet channel.

Lake County has gone on record opposing the construction of a bypass channel through the recently acquired State Park. They favor the alternative to enlarge the existing outlet channel.

Also, the storage capacity of the Cache Creek Settling Basin, which was constructed in 1937 to control sediment inflow to the Yolo Bypass of the Sacramento River Flood Control Project, is now nearly exhausted and sediment deposition from Cache Creek is again affecting the flood-carrying capacity of the Bypass and the maintenance of downstream navigation and flood control works. The Settling Basin's storage capacity would be increased and a 3,600-acre National Wildlife Refuge would be established in the Basin as a part of the National Migratory Bird Management Program.

Congress has not yet authorized this project; however, the Board recommends $500,000 for the study which will allow work to continue, which would accelerate the preconstruction planning stage when Congress authorizes the project.

III. Construction

A. Redbank and Fancher Creeks:

The Corps of Engineers has completed its feasibility report regarding water resources development on Redbank and Fancher Creeks, Fresno County. Also, the Draft of the General Design Memorandum has been completed. The report recommends single-purpose flood control improvements on Redbank, Fancher, and Pup Creeks and Alluvial Drain; and dual-purpose flood control and recreation facilities on Big Dry Creek. The plan provides for enlargement of the existing Big Dry Creek Dam and Reservoir, a new dam on Fancher Creek, and detention basins on Redbank and Pup Creeks and Alluvial Drain.

The report states that significant flood problems exist in the expanding Fresno-Clovis metropolitan area. Flooding occurs throughout the entire study area when channel capacities are exceeded. The most recent serious flooding in January and February 1969 caused an estimated $4.7 million in damages to agricultural lands, residences, and commercial and industrial properties.

The benefit to cost ratio has been improved by changing the capacities of the Fancher Creek and Redbank Creek detention basins to provide 100-year rather than 200-year level of flood protection.

Bills authorizing this project have passed both houses and are now in committee. The Board recommends $2,000,000 for this project.

B. Fairfield Vicinity Streams:

The project is located in the vicinity of the cities of Fairfield and Suisun in Solano County; the drainage basin comprises 45.8 square miles. There are five streams on which improvements are proposed. These are Ledgewood, Laurel, Union Avenue, Pennsylvania, and McCoy Creeks. The project as presented in the Corps of Engineers' Phase II GDM included channel improvements and diversion of three creeks, levees on two of the creeks, and construction of recreation facilities. After completion of the preconstruction planning studies, local interests were not in a position to provide local cooperation assurances for the project. Therefore, the Corps placed the project in a deferred status in September 1977. However, as a result of January 1982 flood damages in the project area, there has been renewed interest in the project. In April 1982, both the Cities of Fairfield and Suisun requested the Corps to reactivate the project. The Cities stated they intended to provide local assurances for a slightly modified project. Based on this support, the Corps reclassified the project to active status on June 1, 1982. In August, the State Reclamation Board indicated its willingness to provide the local cooperation assurances for the project.

The Reclamation Board recommends $3,000,000 for the Fairfield Vicinity Streams project.

C. Lower San Joaquin River and Tributaries:

The Lower San Joaquin River was authorized in 1944 and by PL 98-63, the 1983 Supplemental Appropriations Act. The existing project completed in 1968 consists of channels, levees, and riverbank revetment from Friant Dam on the San Joaquin River to Stockton, a distance along the River of about 225 miles.

The needed work includes selective channel clearing and removal of debris and bars to restore channel capacity to historic levels on the San Joaquin River. Initial work in the Eastside Bypass has been done which was identified as an emergency situation. The next phase of the work will be covered in a joint EIS-EIR, which is being prepared at this time.

The Reclamation Board recommends $1,500,000 for the San Joaquin River continuing construction project.

D. Merced County Streams:

This project, authorized in 1970, will provide flood protection for Castle Air Force Base, the City of Merced, and adjacent suburban and agricultural lands at an estimated federal cost of $73,400,000. The project is contingent upon agreement being reached on cost sharing between local, State and Federal agencies.

The Reclamation Board recommends $3,000,000 for the Merced County Streams Project.

E. Sacramento River and Major and Minor Tributaries:

Improvement of Sacramento River Major and Minor Tributaries was authorized in 1944 and further amended in 1950. This project provides for revetment for protection of bypass levee slopes against erosion. The bypass levee revetment features of the project will provide protection to flood plains adjacent to the bypasses and will decrease requirements for levee repairs under emergency conditions.

The Reclamation Board recommends $200,000 for this project.

F. Sacramento River Bank Protection:

The project, authorized in 1960, is a long-range Federal-State effort, aimed at preserving the existing project levee system of the Sacramento River. These existing levees, which offer flood protection to the Central Valley over a reach of 192 miles, are very old and subject to constant erosion. The Sacramento River Bank Protection Project work consists of sloping and placing stone protection at those points which are identified each year as the most critical. Again in the February 1986 flood, increased damage occurred which further threatens existing project levees. On this project, all costs are shared with the Federal Government paying two-thirds and the State one-third.

The Reclamation Board recommends $7,000,000 for the Sacramento River Bank Protection Project.

G. Sacramento River - Chico Landing to Red Bluff Project:

This project, authorized in 1958, comprises extension and modification of the existing Sacramento River Flood Control Project by the construction of bank protection and minor channel improvements along the Sacramento River between Chico Landing and Red Bluff.

No work was accomplished in 1985. The Board supports a continuation of the Comprehensive Plan beginning at Reach 3 (Woodson Bridge) and working downstream. Because of environmental concerns of the Board and others, work on Reaches 1 and 2 will not proceed until a reevaluation of the plan is complete, except for emergency work. The Board recommends $600,000 for continuing work necessary to reevaluate this project.

H. Sacramento River Flood Control Project:

This project was authorized in 1917 and modified by various Flood Control and/or River Harbor Acts in 1928, 1937, and 1941.

The project comprises a comprehensive system of levees, overflow weirs, drainage pumping plants, and flood bypass channels, extending along the Sacramento River from Collinsville near its mouth in Suisun Bay, upstream to Chico Landing, and along the lower reaches of principal tributaries: together with channel clearing, rectification, snagging and bank protection on the Sacramento River and tributaries.

Maintaining the stability of the project levees has been a continuing problem along Knights Landing Ridge Cut, the Colusa Basin Drain, and near the junction of Cache Slough and the Yolo Bypass. Slips in the Knights Landing Ridge Cut, Colusa Basin Drain and Cache Slough levees are recurring, and in the past PL 99 emergency levee repairs have been accomplished to restore the levee grade and section. The Knights Landing/Colusa Drain levees protect about 100,000 acres of highly productive agricultural land, with about 2,000 people living within the area.

The Reclamation Board recommends $300,000 to continue design deficiency studies on the Sacramento River Flood Control Project.

U. S. Bureau of Reclamation Projects

Auburn Dam:

Auburn Dam, part of the Central Valley Project, was authorized in 1965. Auburn Dam and Reservoir is located on the North Fork of the American River adjacent to the City of Auburn. The dam height when constructed will be 700 feet. Auburn Reservoir will have a capacity of 2,300,000 acre-feet. The Reservoir will add 250,000 acre-feet of flood control space to the American River system.

The population centers of Sacramento, North Sacramento, Arden, Brighton, Carmichael, Fair Oaks, Folsom, and Rancho Cordova lie partially within the natural American River floodplain. The present Folsom Dam and levee system do not provide adequate flood protection against a Standard Project Flood. The part of the metropolitan Sacramento area that would be flooded by the Standard Project Flood is estimated to have a population of about 160,000 people, according to the 1980 census. Auburn Dam and Reservoir will provide additional flood protection to the population centers of the metropolitan Sacramento area.

In February 1986, flood releases from Folsom Dam exceeded the design capacity of the project levees through the City of Sacramento. It was made very clear that additional flood control measures are needed to protect the metropolitan areas.

The Reclamation Board recommends $1,000,000 for continuing planning and design activities.

LOS ANGELES COUNTY DRAINAGE AREA STUDY

STATEMENT OF CHRISTIAN DATWYLER, ASSISTANT DEPUTY DIRECTOR, LOS ANGELES COUNTY

Mr. COLOGNE. Mr. Datwyler?

Mr. DATWYLER. I am Chris Datwyler, assistant deputy director of the Los Angeles County Department of Public Works. One of the most extensive flood control and water conservation systems in the Nation has been built in Los Angeles County. The economy of this area and most of its 8 million resident is dependent upon the successful functioning of that system. The Corps of Engineers began construction of major elements of the system in the 1930's. Unfortunately, some of its designed capacity was based on studies conducted during the 1930's, which did not anticipate the extensive development that has occurred since World War II.

The result is that significantly increased runoff exists, which the existing system may not be able to handle. The Los Angeles County Drainage Area Study [LACDA] was undertaken by the Corps of Engineers to determine if major elements of the system are adequate and to determine what measures need to be taken to correct any deficiencies.

Preliminary indications from the LACDA review indicate the level of protection offered by some major significant facilities may be less than originally intended.

We, therefore, strongly urge that the Congress give priority to the funding of the LACDA study to the $1.15 million level proposed in the President's budget. We also support the $8.9 million recommended for rehabilitation of urgently needed maintenance and repair to projects.

Also, we urge the committee to include in its report direction to the Corps of Engineers to refocus the Mentone study to identify flood control facilities in the Mentone Valley of Los Angeles County, which could be of mutual benefit to Edwards Air Force Base and the upstream community. We urge that the Corps be directed to use unexpended funds in the current use of appropriations for the study.

Thank you.

Chairman HATFIELD. Thank you.

[The statement follows:]

STATEMENT OF LOS ANGELES COUNTY DEPARTMENT OF PUBLIC WORKS

Summary of recommendations by Los Angeles County Department of Public Works concerning the budget allocations to the U.S. Army Corps of Engineers:

1. Los Angeles County Drainage Area (LACDA) Study - We strongly support the President's budget and the California Water Commission's recommendations for an allocation of $1.15 million for continuation of the LACDA Study. Because of the seriousness of known deficiencies in major elements of our flood control system, we further urge that Congress include language in the appropriations bill for water projects that will commit funds for remedial work as soon as this study is completed.
2. Rehabilitation - Support the $8.9 million recommended Presidential budget allocation to the Corps to rehabilitate critical areas of the Los Angeles County flood control system for which it is responsible.

Mr. Chairman and Gentlemen:

One of the most extensive flood control and water conservation system in the nation has been built in Los Angeles County. The economy of the nation's second largest metropolitan area and the well-being of most of its 8.0 million residents is directly dependent on the protection afforded by this system.

Prior to the construction of the dams and flood control channels in the Los Angeles drainage basin, flooding in Los Angeles County took lives, damaged property, and interrupted commerce and trade. At times, flooding isolated the County from the rest of the nation.

The Corps of Engineers began construction of major elements of the system in the 1930s. Since the major segments were completed, it is estimated that the system has prevented $3.3 billion in potential flood damage. Unfortunately, some of its design capacity was based on studies of population projections made in the 1930's which did not anticipate the extensive development of the Los Angeles basin which occurred following World War II. Actual development has been greater than anticipated, resulting in significantly increased storm runoff which the existing system may not be able to carry.

The Los Angeles County Drainage Area Study was started in 1972 when it was realized that much more extensive urbanization had occurred than was assumed by the designers of the system. The purpose of the study is to determine if the major elements of the system are adequate, and if they are not, to recommend appropriate cost-effective mitigation measures to correct the identified deficiencies.

Preliminary indications from the LACDA review study indicate that the level of protection offered by some major existing facilities may be significantly less than originally intended. Our own experience during the wet years of 1978, 1980, and 1983 caused us to conclude that there are major deficiencies in the system. The level of protection afforded by the Los Angeles River is probably the most serious of these deficiencies. Overflow from the Los Angeles River or San Gabriel River during a major storm event could jeopardize billions of dollars worth of property and pose a threat to those who live and work in proximity to the river.

We feel it is very vital to the residents of Los Angeles County that the Corps be fully funded to complete this study expeditiously so that construction of critically needed drainage facilities can begin as soon as possible. We therefore strongly urge that Congress give high priority to the funding of the LACDA Study at the $1.15 million level proposed in the President's budget and that because of the magnitude and seriousness of the problem, include in this year's appropriation bill for water projects a commitment to fund remedial work immediately upon completion of the study.

We also support the $8.9 million recommended for LACDA rehabilitation. Urgently needed major maintenance and repair projects are required to maintain the structural integrity of the flood control system. These funds will allow completion on schedule of the 4-year $29,700,000 rehabilitation program for the Los Angeles River and other facilities constructed by the Corps of Engineers in Los Angeles County.

UNITED WATER CONSERVATION DISTRICT LOAN

STATEMENT OF THOMAS DULLAM, PRESIDENT, UNITED WATER CONSERVATION DISTRICT

Mr. COLOGNE. Mr. Dullam?

Mr. DULLAM. My name is Tom Dullam, and I am president of the United Water Conservation District. I am here with several members of my board, and Supervisor John Flynn of Ventura County; G.I. Wilde, general manager of the United Water Conservation District; and Director Lynn Maulhardt.

I would like to make a very quick, brief explanation of what the Freeman diversion project is. In the Oxnard Plain, located approximately 60 miles north of Los Angeles, we have a very serious problem of seawater encroachment on the acquifers of our water supply in the total irrigated acres of 39,000 acres, urban areas 30,000, with 162,000 population.

Over the past 6 years, we have developed a solution to our problem which required a $15 million investment by local funds.

Phase II of our program is ready to get started. We need funding. That is the reason we are requesting from you for the fiscal year 1987 the amount of $570,000 which is in the President's budget.

This problem is very urgent. We do not have very much time to solve it before our local aquifer might be contaminated. So with your support, we can solve this problem together.

At this time, I would like to give an opportunity to Supervisor Flynn for his comments.

Mr. FLYNN. Thank you very much, Mr. Hatfield.

I think that Mr. Dullam has covered all the essential information, and we hope that we get the loan for this year so that we can start on this project.

Thank you very much.

[The statements follow:]

STATEMENT OF THE UNITED WATER CONSERVATION DISTRICT, CALIFORNIA

My name is Thomas F. Dullam, Jr. I am President of the United Water Conservation District Board of Directors.

I am here to request that you give every possible consideration to the inclusion of $570,000 in the FY 86-87 Federal Budget to provide urgently needed funding for initiating construction of the Freeman Diversion Improvement Project.

Under a Joint Powers Agreement, the County of Ventura and the United District are committed to resolving this problem, and are cooperatively engaged in the Seawater Intrusion Abatement Program. Phase I of that program is nearing completion at a cost of $15 million, funded almost equally from State and local monies. Environmental issues have resulted in costly delays on implementing Phase II, the Freeman Diversion Improvement Project. The problem is one of extreme urgency and it is imperative that Phase II proceed without further delay.

A Project Summary of the very serious problem of Seawater Intrusion is appended. Your further review of the problem and the urgency of our funding needs is respectfully requested.

Thank you for the opportunity of appearing before you today to request your consideration for assistance in this critical matter.

PROJECT SUMMARY

PROJECT TITLE. FREEMAN DIVERSION IMPROVEMENT PROJECT

APPLICANT. United Water Conservation District of Ventura County, California

PROBLEM AND LOCATION. Seawater Intrusion on the Oxnard Coastal Plain, Ventura County, California, acknowledged to be by far the most severe problem of its kind in the state.

PROJECT PURPOSE. To increase diversions of Santa Clara River waters for use in controlling the advance of seawater intrusion into the underground aquifers of the Oxnard Plain.

PROJECT AREA AND POPULATION.

Urban Area	30,050 Acres
Irrigated Agriculture	39,150 Acres
Total Area	69,200 Acres
Total Population	162,000

ESTIMATED COST AND FINANCING PLAN.

Total Project Costs:	$19,556,000
Financing: Federal loan, under the Small Reclamation Projects Act, PL 84-984, as amended.	
Total Appropriation Requirement:	$18,227,300

APPROPRIATION REQUEST FOR FY 86-87. The amount of $570,000 is requested for appropriation in FY 86-87 to initiate final design and construction.

URGENCY FOR RESOLVING PROBLEM. Seawater has already intruded into the freshwater aquifers underlying 25% of the Oxnard Coastal Plain, as depicted on Figure I appended as the last page of this statement. Its further advance must be halted without delay, which is vital to preserving and maintaining the economy of the entire area.

STATEMENT OF VENTURA COUNTY AND VENTURA COUNTY FLOOD CONTROL DISTRICT, CALIFORNIA

Project: United Water Conservation District, Ventura, California

Action Requested: Inclusion of $570,000 in the Bureau of Reclamation's Federal Budget to be Loaned to the United Water Conservation District for Construction of the Freeman Diversion Project

My name is John K. Flynn. As a member of the Ventura County Board of Supervisors, I represent the County of Ventura and the Ventura County Flood Control District.

I am appearing today to urge your inclusion of $570,000 in the Bureau of Reclamation's budget for a PL 984 loan to the United Water Conservation District for the necessary construction of the Freeman Diversion project on the Santa Clara River in Ventura County, California.

Seawater intrusion poses a serious threat to continued agricultural production in a large portion of Ventura County. The Oxnard Plain, which has been farmed since the turn of the century, depends heavily on ground water as the source of water for irrigation. Heavy use of irrigation wells has caused ground water levels to decline which, in turn, has allowed salt water from the adjacent Pacific Ocean to intrude in excess of 20 square miles of the upper aquifer under the Oxnard Plain. The immediate effect of this underflow is an inability to continue the use of wells for a water supply which, in turn, has affected the urban and agricultural communities supplied thereby.

In recognition of this problem, the Board of Supervisors of Ventura County, the United Water Conservation District, and the State of California have developed a project to increase utilization of an alternate water supply, the Santa Clara River, and to decrease pumping of water from the affected aquifer. Ordinances are in effect that prohibit further pumping from the aquifer and pipelines, terminal reservoirs, and new wells have been constructed to provide supplemental water to the area. Local and state expenditures to date approximate $15 million.

The keystone of this project is the Freeman Diversion Structure, a concrete stabilizer to be constructed in the Santa Clara River, that will allow increased amounts of water to be diverted from that river to provide users an alternative water supply through the pipelines and to recharge the ground water basin to halt and reverse the intrusion of salt water under the Oxnard Plain.

Provision of $570,000 in the Bureau of Reclamation's budget for a PL 984 loan to the United Water Conservation District will enable a start towards expeditious and economical completion of this most important project

I urge you to fund this project in the amount specified.

Thank you for allowing me to present this Statement.

ELSINORE VALLEY MUNICIPAL WATER DISTRICT LOAN

STATEMENT OF CHARLES BRYANT, PRESIDENT, ELSINORE VALLEY MUNICIPAL WATER DISTRICT

Mr. COLOGNE. Mr. Bryant?

Mr. BRYANT. Mr. Chairman, I am Charles Bryant, president of the Elsinore Valley Municipal Water District.

The district is the lead agency for the Lake Elsinore lake management project in the Bureau of Reclamation Small Loan Program. On behalf of the citizens of the Elsinore Valley, I support the project and urge your approval of the $1.0 million in the President's 1987 budget. Thank you.

Chairman HATFIELD. Thank you, sir.

[The statement follows:]

STATEMENT OF THE ELSINORE VALLEY MUNICIPAL WATER DISTRICT

Mr. Chairman, I am Charles Bryant, president of the board of directors of Elsinore Valley Municipal Water District, Lake Elsinore, CA. The water district is the lead agency for the Lake Elsinore lake management project. This approved Bureau of Reclamation Small Loans Program has been developed as a joint effort with the U.S. Corps of Engineers, State of California, County of Riverside, and city of Lake Elsinore.

I have been requested to appear before you on behalf of the water district and the entire area in asking your continued support by approving the $1 million which has been allocated in the 1987 budget. The importance of this project to the entire Elsinore Valley cannot be overstated. It will have a positive effect on the economic development, flood control, and the health, safety, and welfare of all the valley residents.

The city of Lake Elsinore will soon be celebrating its 100th birthday and over that period of time the radical experience of the unmanaged lake level has been disastrous. As an example, in the late 1950's the lake completely dried up and became a dust bowl, the once prosperous valley was devastated. On the other side of the ledger, in 1980 the lake flooded causing over $70 million in damage and destruction—over 200 homes destroyed—another devastating experience.

Elsinore Valley Municipal Water District has an approved project under the Bureau of Reclamation Small Loans Program and the design of the project is progressing. It is anticipated that construction on the project will commence within approximately 18 months.

On behalf of the citizens of Elsinore Valley I support the project and urge your approval of the $1 million in the 1987 budget to complete the design of the project.

Thank you.

PAJARO RIVER, UVAS-CARNADERO PROJECT

STATEMENT OF ALBERT HENLEY, GENERAL COUNSEL, SANTA CLARA VALLEY WATER DISTRICT

Mr. COLOGNE. Mr. Henley?

Mr. HENLEY. I am Albert Henley, San Juan Valley Water District. I am accompanied by James Lenihan, on the committee here who appeared before this committee and before the House committee on this provision. The President's budget contains funds to complete that division, and at last, really and truly, I think that this will complete it and it will be funded in the President's budget. Under the circumstances, I need not take the time of the witnesses on extended testimony. I will leave it to Director Lenihan to make the final comment.

Chairman HATFIELD. Thank you.

Mr. LENIHAN. Thank you, Mr. Henley.

On behalf of the local representative being here for 25 years and being involved in the Pajaro River project for that period of time, I would like to thank the committee for the support and urge the continuance of the final report of the project.

Thank you very much, Senator.

Chairman HATFIELD. Thank you, sir.

STATEMENT OF ROY ESAU, ASSISTANT GENERAL MANAGER, SANTA CLARA VALLEY WATER DISTRICT

Mr. COLOGNE. Mr. Esau.

Mr. ESAU. Mr. Chairman, I am Ron Esau from the Santa Clara Water District, as well. We have three statements that we request be included in the testimony record supporting the President's budget. First, a statement in the amount of $840,000 for two interim portions of the survey of the San Francisco Bay shoreline; second, $500,000 for initial construction on a flood control project in the city of Gilroy, the Pajaro River and Uvas-Carnadero Project; third, a statement in support of the amount of $750,000 to continue design work on the Guadalupe River portion on the Guadalupe River and adjacent streams project in the downtown San Jose area. We would certainly be pleased if you would support those three statements which are in conformance with the President's budget.

I have to my right Roberta Hughan, mayor of the city of Gilroy. She would like to make a brief statement with respect to the Uvas Creek work.

[The statements follow:]

STATEMENT OF THE SANTA CLARA VALLEY WATER DISTRICT, CALIFORNIA

SUMMARY

The Statement supports the President's Fiscal Year 1986-87 Budget in the amount of $500,000 for initial construction by the Corps of Engineers of the Pajaro River: Uvas-Carnadero Project, Santa Clara County, California.

BACKGROUND

The Pajaro River: Uvas-Carnadero Creek Project is located in Gilroy in the southern part of Santa Clara County, California. Congress originally authorized a levee project along Uvas Creek in 1944. Subsequently a more comprehensive effort to study the entire Pajaro River Basin was authorized by Congress in 1945. A specific report on the Uvas-Carnadero Creek portion, now to be constructed, was completed in August 1975.

The proposed project is a single levee on the northwest side of the creek to prevent flood flows from entering the southern part of the City of Gilroy. In February 1981, a public meeting was held by the Corps of Engineers in Gilroy. As a result of the firm citizen support and successful completion of pre-construction work, the Corps is proceeding with the final approval stage for the construction of the proposed project which reflects an approximate $5.4 million total project cost and a 2.3:1 benefit to cost ratio.

The January 1982 flood, though not major in magnitude, seriously threatened the City of Gilroy. Emergency actions were necessary to prevent failure of the existing levee. However, on February 17, 1986 floodwaters exceeded the banks of Uvas Creek and flowed into 200 homes and 20 businesses causing damages exceeding $5 million. Floodwaters were greater than three feet deep.

The proposed project would protect about 600 existing homes, a new high school and commercial and industrial establishments from flooding. This area is that which the City of Gilroy and the County of Santa Clara have designated for development in lieu of other areas easterly of the present city which are subject to more severe flooding and in which agricultural operations are to be preserved. The project would alleviate potential damages of $19.6 million during a 1% flood event.

STUDY SYNOPSIS

The study is now in advanced engineering and design stage, Phase II, of the

General Design Memorandum (GDM). Final design is scheduled for completion in Fiscal Year 1986 with construction starting in the summer of 1987.

PRIOR FUNDING

In 1983 funding was provided in the final Continuing Appropriations Bill (Energy and Water portion) in the amount of $190,000. This provided sufficient funding to carry planning and design of the project through FY 1985 and to prepare the project for construction in FY 1986. No funding was appropriated for this project in FY 86.

FY 1987 FUNDING

To accommodate construction beginning in FY 1987 the federal budget requires $500,000. Construction will be over a two-year period.

RECOMMENDATION

Community development has long contemplated completion of this critically-needed protection project. The amount of $500,000 in the President's 1987 Budget should be supported to insure construction as scheduled.

SUMMARY

The Statement supports the President's Fiscal Year 1986-87 Budget in the amount of $840,000 for Interim II and III of the Corps of Engineers' Authorized Survey of San Francisco Bay Shoreline, California.

BACKGROUND

The Bayfront areas of many of the San Francisco Bay counties have been adversely affected by land surface subsidence and, as a result, military installations, extensive lands, thousands of homes, business establishments and industries are subject to hazardous inundation from tides of the Bay. In Santa Clara County alone, approximately 40 square miles of land surface area is adversely affected. This area houses a number of federal installations including the U. S. Naval Air Station at Moffett Field and the National Aeronautics and Space Administration's Ames Research Facility. Industrial productivity could be adversely affected by tidal flooding since defense industries such as Lockheed, and many electronics, aeronautics and space firms are located in the area. The study is essential, also, in order to permit and ensure integration of any flooding solution with protection of wetlands and wildlife refuges.

The saltwater flooding problem is particularly acute in northern Santa Clara County where the threat of flooding is an annual concern. The potential for damage grows with each year. A combination of high tides, high winds, and moderate river flows has resulted in the overtopping of the inadequate, unsound, privately-owned levee system in this area. The community of Alviso is especially vulnerable to this flood threat as evidenced by disastrous inundation in 1982 and 1983. In 1985 the Santa Clara Valley Water District completed a $1.0 million construction project which strengthened and heightened the levee west of Alviso providing limited protection to the community.

STUDY SYNOPSIS

This Corps of Engineers' survey was authorized by the 1976 Omnibus Rivers and Harbors Bill to examine the tidal flooding from San Francisco Bay. Funds were first appropriated in FY 1979 and the study has been initiated by the San Francisco District office of the U. S. Corps of Engineers. The study is being conducted in three phases with Santa Clara County and Southern Alameda counties included in Interim I. The remaining bay area counties are included in Interim II and Interim III. The San Francisco District held three broadly-based public meetings in January 1979 and also retained a consultant to define damage potentials and constraints and to assimilate the testimony requesting federal assistance given at those public hearings. Work in Fiscal Years 1983 consisted of topographic mapping, environmental and economic assessment of feasible actions. During Fiscal Year 84 and 85, the Corps continued refinement of studies leading to a targeted draft study report in September 1986. A Final Report and EIS for Interim I is scheduled for April 1987.

Funds are needed to identify the hazards from tidal inundation with an objective, scientific study. Local agencies have neither the resources nor the geographical scope to deal with this problem which affects the entire San Francisco Bay Region. Local support is very strong.

FY 1986 FUNDING

The FY 1986 budget included $470,000 for Interim I of this project (South Alameda and Santa Clara Counties only) which is sufficient to complete the Final Study report and EIS.

FY 1987 FUNDING

No additional funding for Interim I is required in FY '87. However, continued funding in the amount of $840,000 for continued work on Interim II and Interim III is needed to assure timely completion of all shoreline work under this authority.

RECOMMENDATION

We therefore urge support of the President's Budget for 1987 in the amount of $840,000 for Interim II and Interim III.

SUMMARY

The Statement supports the President's FY 1986-87 Budget in the amount of $10,642,000 for completion of construction by the Bureau of Reclamation of the Santa Clara and San Benito counties phases of the San Felipe Division, Central Valley Project, California.

I am Albert Henley, an Attorney appearing for the Santa Clara Valley Water District. I am accompanied by Mr. James Lenihan, a Director of the District and for many years the District's representative on the former San Felipe Committee. The District covers the north and south Santa Clara sub-areas of the Division Service Area and is the contracting agency with the Reclamation Bureau for repayment.

BACKGROUND

The San Felipe Division of the Central Valley Project, authorized by Congress in 1967 (P.L. 90-72), will provide a supplemental water supply in Santa Clara, San Benito, Monterey and Santa Cruz counties for municipal, industrial and irrigation use. There are also recreation and fish and wildlife enhancement benefits. Construction by the Bureau of Reclamation was initiated in September, 1978, following execution of repayment contracts with the Santa Clara Valley Water District and the San Benito County Water Conservation and Flood Control District.

The project is being constructed with a capability to supply about 216,000 acre feet of water annually by the year 2020. It will provide supplemental water to 44,900 acres for irrigation, and 135,400 acre feet of water annually for municipal and industrial use, primarily in Santa Clara County.

Water from San Luis Reservoir will be transported to the service area through Pacheco Tunnel and other principal features which include 8.1 miles of tunnels, 46.9 miles of closed conduits, two large pumping plants and one terminal reservoir. The Pacheco Tunnel inlet was constructed previously under Congressional authority contained in the San Luis Unit Authorization Act.

PRIOR FUNDING

Funds were first appropriated to begin preconstruction planning in FY 1970 and for construction in FY 1975. Actual construction work began in 1978 following execution of repayment contracts. Federal allotments for the project to September 30, 1985 total $247.3 million. The allotment for FY 1986 is approximately $35.5 million.

FY 1987 FUNDING

To complete all facilities required for service under existing San Felipe Division contracts, a budget amount of $10,642,000 is required for FY 1986-87.

RECOMMENDATION

It is recommended that the President's FY 1986-87 Budget in the amount of $10,642,000 for current completion of construction for the San Felipe Division (CVP), California, be supported.

CONCLUSION

The Committee will have noticed that the President's budget proposal of $10,642,000 for FY 1987 represents what will very probably be the last request you will hear for an appropriation to continue construction of elements of the San Felipe Division of the Central Valley Project to serve the area we represent. We respectfully request your support. This part of the Bureau's work is to be completed next spring and the benefits of San Felipe will begin to flow to the lands and people of the Santa Clara and Hollister service areas. It is to be noted, as well, that repayment will begin to flow to the United States Treasury.

Mr. Chairman, I am sure you and your Members will agree that all concerned, and not least this Committee, can take profound satisfaction in the San Felipe Division. It is well conceived as an engineering measure and it has been built to date within indexed cost projections made some twenty years ago.

I will add nothing to these brief final remarks except to express personal thanks to the Committee for the courtesy and consideration we have never failed to receive at your hands.

SUMMARY

The Statement supports the President's 1986-87 Budget in the amount of $750,000 to continue design on the Guadalupe River portion of the Corps of Engineers' Guadalupe River and Adjacent Streams Project, Santa Clara County, California.

BACKGROUND

The Guadalupe River and Adjacent Streams Project and Study includes the Guadalupe River, Coyote Creek and Berryessa Creek. The Guadalupe River and Coyote Creek are the two major waterways that flow through the highly urbanized area of Santa Clara County, California. Historically, they have flooded the downtown areas of San Jose and Alviso beyond local capability to prevent. For example, on the Guadalupe River the estimated damages from a one percent or 100-year flood, which would inundate the urban center of San Jose, is $71,800,000. It is estimated that a 50-year flood on this river would cause $43,500,000 worth of damage under existing conditions. Damages on Coyote Creek would be $45 million during the 1% events to the north San Jose and Milpitas area. The probability of such floods occurring before implementation of flood prevention measures is quite high. A 50-year flood has an 18 percent chance of occurring during a 10-year period; a 100-year flood has about 10 percent chance of occurring during this same period. There is strong potential, therefore, that a damaging flood will occur before the problem can be resolved. The Guadalupe River had started to overflow its banks in April 1982 and January 1983 before the storm receded and avoided major damage. The Guadalupe River did overbank in February 1986 causing some damage to residences and business in the St. John and Pleasant Street area. Coyote Creek has caused the greater damages amounting to several million dollars, overbanking in April 1982 and again in March 1983. Hundreds of people were forced to evacuate their homes where floodwater stood for a substantial period of time.

STUDY SYNOPSIS

In 1971, the community requested the Corps of Engineers to reactivate its earlier study. The Plan of Study was completed in 1973. The initial problem definition and alternative screening was completed in 1974. More detailed problem definition and alternative studies for the Guadalupe River and Coyote Creek were completed in 1978. The third phase, study of freshwater flooding in the Baylands, was completed in 1979.

The Stage 2 report was completed for the combined Guadalupe River, Coyote Creek and Baylands. The report at that time established the financial feasibility and federal interest in the Guadalupe River. In light of recent severe flooding, the Corps has now focused its study on Coyote Creek to address the inadequate level of protection provided by unstable levees. The study will also include Berryessa Creek a major tributary to Coyote Creek.

In an effort to accelerate the completion of this overall program, the local community through the Santa Clara Valley Water District has provided a substantial amount of technical and financial assistance since 1972. Special planning studies have been completed by the District for inclusion into the Corps' studies at a cost of over $430,000. To date, therefore, over $2.0 million has been expended on this study.

The recent severe flood problem and the ominous threat of future damages has forced the local community to initiate a local project on Coyote Creek in anticipation of future federal participation. Nearly $3.2 million will have been spent on the planning, design and construction of improvements on Coyote Creek by fall 1986, which are planned for incorporation into the Federal project. However, without Federal assistance needed flood protection cannot be achieved. The necessity to reduce Federal expenditures to meet economic goals is recognized. Nevertheless, projects such as the Guadalupe River and Adjacent Streams, where costly studies are complete and economic feasibility has been established, should continue to be adequately funded.

FY 1986 FUNDING

Total funding for 1986 is $400,000. $135,000 maintains the schedule necessary for completion of the Coyote Creek and Berryessa Creek Feasibility Reports and Environmental Impact Statement in early FY '87. Funding for FY '86 was determined assuming an equal local cost sharing contribution. The Guadalupe River project received $265,000 in FY '86 in the Corps' Continuing Planning and Engineering (CP&E) program.

NECESSARY FY 1987 FUNDING

Funding for the Guadalupe River project during 1987 in the amount of $750,000 in the Corps' Continuing Planning and Engineering Program (CP&E) is essential to assure required design progress in anticipation of a future construction start as scheduled. No additional funding will be required for the completion of the Coyote and Berryessa Creek studies.

RECOMMENDATION

Based upon the present high flood risk and potential damage from the Guadalupe River, it is urgently requested that the President's 1986-87 Budget in the amount of $750,000, to continue design of the Guadalupe River Project, be supported.

PAJARO RIVER, UVAS-CARNADERO PROJECT

STATEMENT OF ROBERTA HUGHAN, MAYOR, GILROY, CA

Chairman HATFIELD. I know precisely where Gilroy is, too. I have been there.

Ms. HUGHAN. Thank you very much for giving us the time.

Chairman HATFIELD. Thank you. Nice to have you with us, Madam Mayor.

Ms. HUGHAN. Did you come to the Garlic Festival in Gilroy?

Chairman HATFIELD. No; but I know former state chairman of the party, George——

Ms. HUGHAN. Millius.

Chairman HATFIELD. Yes; Millius was from Gilroy, and I know him very well.

Ms. HUGHAN. We would like to ask your cooperation in funding $500,000 toward the initial construction of the Uvas-Carnadero flood control project. We had flooding in the city of Gilroy in February of about 200 homes and businesses, and $5 million worth of damage. Currently, those people, every time it rains, go down to the creek bed and look to see what is going to happen. So your cooperation would really help alleviate their concerns.

Thank you.

Chairman HATFIELD. I want you all to know that I have a very strong commitment to water projects in California. The more water you can store, the less problem we have up north. [Laughter.]

Mr. ESAU. We do look north once in a while.

[The statement follows:]

STATEMENT OF THE CITY OF GILROY, SANTA CLARA COUNTY, CA

Thank you for giving me the opportunity to speak on this important project.

The Gilroy City Council wishes to convey to you its urgent desire to have the Uvas Creek flood control project funded by Congress in 1987.

Storms in February of this year left our community with an all too unpleasant reminder of the need for this project. Over 200 homes were flooded from Uvas Creek and an estimated $5 million in flood damages were sustained to private property. The flood drew national attention.

The project has a benefit-to-cost ratio of 2.3 and has been authorized since 1944. In comparison with all flood control projects in the Nation, the Uvas has one of the highest local cost-shares, being directly compatible with cost-sharing formulas under consideration by Congress. Therefore, there would appear to us to be no reason for Congress not to appropriate construction funds for this $5.4 million project.

The city of Gilroy is most anxious for favorable congressional action on this long-needed project, and strongly supports the President's budget amount of $500,000 for fiscal year 1987.

Mr. COLOGNE. Mr. Anderson?

Chairman HATFIELD. Mr. Cologne. I am reaching a point where I must leave—a vote that has been called on the floor. How many more do you have?

Mr. COLOGNE. Mr. Chairman, I think we can call it quits with one more witness on the Auburn Dam regarding the question that you had earlier.

Let's call that witness, and we can end our presentation.

Chairman HATFIELD. Can we then receive the testimony from the other witnesses remaining and include those statements in the record.

Mr. COLOGNE. How much time would you have?

Chairman HATFIELD. They have already summoned the 5-minute warning bell, on a 15-minute rollcall. I have about 2 minutes left on that rollcall.

Mr. COLOGNE. That will be 1 minute, and I will summarize in 1 minute and we will call it quits.

Chairman HATFIELD. You will give me 1 minute to get to the Capitol?

Mr. COLOGNE. Do you run as fast as our Senator Cranston? [Laughter.]

Chairman HATFIELD. I am in good shape.

Mr. COLOGNE. Anybody want to speak on Auburn?

AUBURN DAM, CA

STATEMENT OF MICHAEL A. CATINO, MANAGER, CALIFORNIA CENTRAL VALLEYS FLOOD CONTROL ASSOCIATION

Mr. CATINO. I will take the opportunity, Mr. Chairman. It is nice to be with you. My name is Michael Catino.

Chairman HATFIELD. Yes; we know.

Mr. CATINO. Thank you, sir.

I will speak to the Auburn issue. We lost the coffer dam in Auburn, which was worth about $10 million this year. The Bureau of Reclamation has to come back and replace that and clean up the area. We also lost a good portion of Highway 49. I do not have exact estimates in front of me, but I believe the Bureau of Reclamation will be needing in the neighborhood, for the balance of this year and into next year, about $8 million.

Chairman HATFIELD. Thank you, that is very helpful.

[The statement follows:]

STATEMENT OF CENTRAL VALLEY PROJECT WATER ASSOCIATION

Mr. Chairman and members of the Committee: I am Ralph Nissen, President and with me is Michael Catino, Manager of the Central Valley Project Water Association. The Association represents 68 major water, irrigation and municipal utility districts and cities and organizations utilize about 90 percent of the Central Valley Project water supplies and equally to the irrigation and municipal and industrial water repayment. We appreciate the opportunity to come before you to present our recommendations for the Central Valley Project budget requirements for Fiscal Year 1987.

In most cases we support the President's budget; however, there are some program items we feel need augmentations, these are:

BUREAU OF RECLAMATION

General Investigations

San Joaquin Valley Conveyance Study (Mid-Valley Unit--CVP)

The President's FY 1987 budget does not include any funds for this important study which should yield to a beneficial project to provide water supplies to Eastern San Joaquin Valley. This area is presently served by the Friant-Kern and Cross Valley Canals. Current supplies are insufficient to meet the extensive ground-water depletions. The Feasibility Investigations will be completed in FY 1986. A substantial portion of this work has been cost-shared by the Mid-Valley Water Authority. It is highly undesirable to have this study unfunded which will destroy the current progress and continuity.

Legislation by Senator Wilson, S 1898, and Congressman Lehman, HR 3182, has been introduced to authorize the essential water transport, storage and distribution facilities.

We recommend an appropriation of $1,000,000 and the appropriate authorization for the advance planning phase.

Delta Water Management Study

The President's FY 1987 budget does not include any funds for this vital work for seeking solutions for passing Northern California water through the Delta to the Central Valley Project and State Water Project pumps, the restoration of fishery in the Delta and water supplies and water quality in the Delta areas. The Delta is one of the most important parts of solving California's water problems. The Bureau of Reclamation has $250,000 available in the FY 1986 for joint participation with the State (DWR) and Corps of Engineers. It is important for them to be active with the other Agencies.

We recommend a continuing appropriation of $400,000 for FY 1987.

Construction

Auburn-Folsom South Unit
Auburn Dam

During the February 1986 floods the Cofferdam, built for diverting the North and Middle Forks of the American River around the future Auburn

Damsite failed. The remains of the nearly 3 million cubic yard dam with a height of 225 feet and built at a cost of nearly $10 million will need to be reduced to a safe condition. Clean-up in the river channel and diversion tunnel and restoration of various canyon access roads, including State Highway No. 49, trails and the Foresthill pipeline will need to be accomplished during Fiscal Years 1986 and 1987. Some funds are currently available.

We recommend that the President's FY 1987 budget be increased from $1 million to $5 million to complete the highly warranted rehabilitations.

San Luis Unit
San Luis Drain and Kesterson Reservoir

The closure of the San Luis Drain facilities to effluent has developed into a severe farm and local economic impact on the west side of the San Joaquin Valley. Various plans are being evaluated to solve this highly technical Selenium problem. Due to the difficulty of selecting a precise plan at this presentation time, speculation must be introduced and permission to seek sufficient funding to move this program toward a solution. The plans have various fund requirements; however, a median of all being considered is suggested.

We recommend that the President's FY 1987 budget for the Unit be increased from $12.172 million to $26 million. Also, an appropriate authorization will be required to continue the San Luis Drain Programs.

SUMMARY

This Statement urges augmentation of the President's FY 1987 budget as follows:

	President's Budget	CVPWA Recommendation
BUREAU OF RECLAMATION		
General Investigations		
San Joaquin Conveyance Study (Mid-Valley Unit, CVP)	$ 0	$1,000,000
Delta Water Management Study	0	400,000
Construction - CVP		
Auburn-Folsom South Unit (Auburn Dam)	1,000,000	5,000,000
San Luis Unit (San Luis Drain & Kesterson Reservoir)	12,172,000	26,000,000

We support the President's FY 1987 budget for the following program items:

Construction Funds

Central Valley Project

Sacramento River Division	$ 1,060,000
Trinity River Restoration Program	4,650,000
Delta Support Studies - Including Suisun Marsh	1,008,000
San Felipe Division	10,642,000
New Melones Lake Recreation (Corps of Engineers)	1,900,000

Loan Programs

San Benito County W.C. & F.C.D.	365,000

Feasibility Investigations

Off-Stream Storage	350,000
Minor Work for Completed Projects	125,000
Environmental and Interagency Coordination	800,000
Refuge Water Supply	170,000
Technical Assistance to States	175,000
Spring Creek Toxicity Control Study	20,000

STATEMENT OF CALIFORNIA CENTRAL VALLEYS FLOOD CONTROL ASSOCIATION

Mr. Chairman and Members of the Committee: I am Michael Catino, Manager of the California Central Valleys Flood Control Association (CCVFCA) and we appreciate the opportunity to come before you to present our recommendations for fiscal year 1987 appropriations.

The Association, which I represent, was organized in 1926, prior to any major State or Federal water and energy projects, and since that date has been a proponent of all of these developments in California. Seventy-five Reclamation, Levee Maintenance, and Flood Control Districts comprise its membership, located south from Red Bluff, California to Manteca, California, and containing 900,000 acres along the Sacramento and San Joaquin Rivers and Delta areas.

In February of this year, Northern California suffered another devastating flood period. The Sacramento Valley and Delta area levees have sustained extreme damages. While losses of life were very minimal due to the immediate action of local, State and Federal agencies. Property damages are higher than in previous flood periods. For restoration of facilities that guard against the elements significant funding will be required. It is well to point out that work done to date is mostly in the "flood fighting" category. Permanent restoration will be the goal of all agencies in the future. The President's budget for FY 1987 prepared near the first of the year, will need to be augmented to accommodate a rehabilitation work program. Estimates are not readily available to this Agency to fully present the scope of the construction work. It is recommended that those concerned agencies be provided a revised budget in conformance with their surveyed needs and capabilities.

Separately, we recommend augmentation of the President's FY 1987 budget for the following:

CORPS OF ENGINEERS

General Investigations

Sacramento River Flood Control System - Interim

President's FY 1987 budget	$ 0
CCVFCA Recommendation	400,000

This Association is concerned with the capability of the current river system to equal its design values. Many of the protection levees are approaching 100 years of life and others are 50 years old. The levees have subsided in many areas along with sediment deposition in the streambeds. It is doubtful that the water carrying and diversion facilities are meeting their design characteristics.

We join with the State Reclamation Board in the immediate review of the Sacramento River Flood Control System and separately support the study of the American River System since its capabilities are questionable in view of this years' increased sedimentation and erosion.

Northern California Streams
Cottonwood Creek

President's FY 1987 budget	$ 0
CCVFCA Recommendation	200,000

Cottonwood Creek remains as one of the most unabated streams flowing into the Sacramento River and generally adds to the Valley's flood control problems. Studies have continued for many years to a point where construction could commence if suitable cost-sharing arrangements can be accomplished between the State and Federal Agencies. In view of the flood damages of 1986, sufficient funding should be obtained to ascertain revised values and continuing negotiations for ultimate construction.

SUMMARY

This Statement supports augmentation of the President's FY 1987 budget as follows:

	President's Budget	CCVFCA Recommendation
CORPS OF ENGINEERS		
Sacramento River Flood Control System - Interim	$ 0	$400,000
Northern California Streams - Cottonwood Creek	0	200,000

We support the President's FY 1987 budget for the following program items:

CORPS OF ENGINEERS	
General Investigations - Surveys	
Dry Creek	$ 100,000
Sacramento-San Joaquin Delta	250,000
Cache Creek	500,000
Construction - General	
Lower San Joaquin River and Tributaries	1,500,000
Sacramento River - Major and Minor Tributaries	200,000
Sacramento River Bank Protection	7,000,000
Sacramento River, Chico Landing to Red Bluff	600,000
Sacramento River Flood Control Project	300,000

CONCLUDING REMARKS

Mr. Cologne. Mr. Chairman, what we would like to say is those floods have told us one thing, and that is that both the Federal Government and the State government pay out a lot of money in emergency relief, and what we are asking for in the additional funding that we are hoping that can be fitted in some way is a very small portion of what would otherwise be spent for emergency relief. We would hope that the committee can give some special consideration.

Chairman Hatfield. I want to say, once again, that I can't think of any other area that comes as well organized and with a presentation coordinated and developed at local and State levels than you folks from California. You should be very proud of the kind of presentation you make, because it is outstanding.

Mr. Cologne. Thank you very much. I appreciate it.

ADDITIONAL SUPPORTING STATEMENTS FOR THE RECORD

Chairman Hatfield. Thank you all for coming.

And, as I indicated, all of the statements which have been submitted will be made part of the record.

[The statements follow:]

STATEMENT OF THE FRESNO METROPOLITAN FLOOD CONTROL DISTRICT, CALIFORNIA

My name is Jim Markarian and I am Chairman of the Board of Directors of the Fresno Metropolitan Flood Control District of Fresno County, California, the local sponsor for the Redbank-Fancher Creeks Flood Control Project, a modification to the previously authorized Fresno County Streams, California project. I am authorized to speak on behalf of the County of Fresno, the Cities of Fresno and Clovis, and the Fresno Irrigation District. In addition, the California legislature has passed and the Governor has signed legislation approving the project and authorizing State financial participation.

We respectfully request that project construction be retained in the FY 86-87 budget in an amount not less than the $2,000,000 provided in the President's budget. The subject construction element will provide immediate flood protection to the Friant-Kern Canal of the important Central Valley Project.

The Redbank-Fancher Creeks Project was initially identified in the Big Dry Creek project investigation of 1940 and the resulting Fresno County Streams project authorization. In 1956, the Congress specifically authorized investigation of the project modification relating to the Redbank,Fancher, and Big Dry Creeks stream system. Unfortunately, federal funds were not appropriated until the disasterous 1969 floods. The completed investigation proves the project to be both economically justified and environmentally sound.

The Redbank-Fancher Creeks Project is economically justified on the basis of flood damage prevention alone. Though other benefits accrue, they are not required to produce a positive benefit/cost ratio. The project will provide protection to 57,000 acres containing a population in excess of 120,000. The final benefit/cost ratio is estimated near 2:1 at an 8-5/8% interest rate. Estimated average annual flood damages exceed $14,000,000 and affect both urban and agricultural land. The project will also protect an open irrigation canal system which transverses 210,000 acres of the world's most productive agricultural lands, Fresno County's gross annual production recently exceeding 2.0 billion dollars. The project will control the historic flooding which has seen the stream and canal systems overflow an average of once every four years since 1953.

In July 1980, the investigation report was forwarded to the Chief of the Corps of Engineers, being subsequently forwarded to the Congress as House Document 98-147. The project has been included in authorization legislation passing the House of Representatives during three recent sessions of Congress. Though not enacted, the specially worded authorization reflected the awareness of the project's special needs. The project is now included within S. 1567 and H.R. 6, both authorizing project construction. Congressional action effecting the requested appropriations is critical in that it will prevent further flood damage and increases in project costs.

We appreciate the privilege of appearing before the Committee and the past support given the project. We urge your continued support and ask that our statement and the attached detailed presentation be made a part of the hearing record.

The people of the central county area of Fresno County, California are deeply appreciative of the opportunity to have the presentations of their representatives heard by the honored members of the Congress. While the Redbank-Fancher Creeks Flood Control Project is not large by some standards, it is critically important to the Fresno-Clovis metropolitan area which is the business center of the most productive agricultural county in the world, gross annual production recently exceeding 2.0 billion dollars.

This report, first submitted in May 1971, has been prepared to substantiate the continuing vital need for flood control works specified in the Redbank and Fancher Creeks project report.

AUTHORIZATION:

The Redbank-Fancher Creeks project is a modification of the existing Fresno County Streams, California authorization incorporating the enlargement of the Big Dry Creek Dam and the containment of the balance of the stream group.

The Congress, on June 13, 1956, authorized the Corps of Engineers to reinvestigate the stream group project, this following the major floods of 1955 and 1956. Unfortunately, funds were not provided and the Corps did not begin the investigation until the area had suffered its worst flooding in history during January and February 1969. The release of funds and the start of the investigation occurred in July 1970, some fourteen years after Congressional authorization. Unfortunately, the floods of 1986 find the final authorization still pending.

PROJECT LOCATION AND NEED:

Redbank, Fancher, and Big Dry Creeks of the Fresno County Stream Group, their tributaries and related streams addressed by the project, are located on the western slope of the Sierra Nevada mountains. The watershed encompasses some one hundred seventy-five square miles and generates storm runoff which flows through the heart of the metropolitan area. The flows impact directly on the open irrigation canal system which transverses some 210,000 acres of the world's most productive agricultural land and 45,000 acres of a densely developed urban community with a population in excess of 350,000.

It is currently estimated that the floodplain to be protected by the proposed project includes 57,000 acres with a population of 120,000 (1982) and a market value in excess of 2.4 billion dollars. Total estimated average annual flood damages exceed $14,000,000 and affect both urban and agricultural properties.

HISTORY OF FLOODING:
As a result of the uncontrolled nature of the subject stream group, flooding has occurred frequently. Floods of record occurred in March 1938, December 1955, January 1956, January 1969, February 1969, March 1978, and January 1983. In addition, available records indicate flooding of lesser severity occurred in 1914, 1915, 1916, 1937, 1958, 1965, 1972, 1977, and 1986 with the streams and irrigation canal system overtoppoing their banks on the average of once every four years since 1953.

Although the recent floods which occurred in March 1978, January 1983, and February 1986 were of a lesser magnitude than those of 1969, thousands of dollars in damages to private homes, public roads, irrigation facilities and hundreds of acres of prime agricultural lands were experienced. Such floods again demonstrated the urgent need for immediate construction of flood control works.

LOCAL SUPPORT:
Following the floods which occurred in January and February 1969, the Fresno area was declared a part of California's disaster area. With the realization that millions of dollars in flood damages could have been prevented and that a recurrence of such floods would be even more devastating, a public hearing on the needed flood control works was held on February 28, 1969. Hundreds of the community's citizens representing some seventy-five public and private organizations met and drafted resolutions to the U.S. Army Corps of Engineers and legislative representatives urging the active pursuit of Redbank-Fancher Creeks Flood Control Project. Subsequently, the County of Fresno, the Cities of Fresno and Clovis, the Fresno Metropolitan Flood Control District, and the Fresno Irrigation District, authorized direct work with the Corps of Engineers and the Congress to secure adequate flood protection for the Fresno-Clovis metropolitan area.

In an effort to ensure the availability of lands needed for the required flood control structures, the County of Fresno acting jointly with the Fresno Metropolitan Flood Control District did, on October 22, 1974, effect open-space and conservation zoning of approximately 500 acres. More recently, the Cities of Clovis and Fresno, the County of Fresno, and the Fresno Metropolitan Flood Control District, signed contracts appropriating $335,000 per year to acquire the necessary project lands. Project land acquisition is now well underway.

Relatedly, the California Water Commission has historically supported and continues to support the project. Further, the State Reclamation Board has submitted a supporting letter of intent for local assurances. Most recently, the California Legislature has passed and the Governor has signed legislation authorizing State support of and financial participation in the project.

At the local level, a broadly based Citizens Project Advisory Committee has been created by the Flood Control District. The Committee and the sixteen community organizations and agencies it represents have reviewed and confirmed the project's need and design features. The Committee has also structured a financing plan to ensure the availability of the required local cost share and the equitable distribution of those costs.

ENVIRONMENTAL CONSIDERATIONS:
Upon completion and distribution of the Draft Feasibility Report and Draft Environmental Impact Statement, a public hearing was held within the project area by the Fresno Metropolitan Flood Control District, the local project sponsor, and the U.S. Army Corps of Engineers. Testimony submitted during the subject hearing indicated that there have been no areas of controversy associated with the project or its limited environmental impact. In summary, the testimony received confirmed the accuracy of the Draft Environmental Impact Statement in identifying only limited impacts and the adequacy of the proposed mitigation measures. It was also apparent that any adverse environmental impact which might be associated with the project during the brief construction period would be of a temporary nature and insignificant when compared with the permanent environmental and social benefits which would be derived. Even at the current advanced stage of the project, the only negative voice has been limited to a few of those who own land required for the project. Subsequent environmental studies and actions by the local sponsor have addressed these limited points of objection.

PROJECT FEASIBILITY AND FINANCING:
The complete report, supplemented by additional detailed studies, substantiates the need for the proposed project and identifies strong economic justification. The project costs and benefits reflected by the draft General Design Memorandum are as follows:

(Total First Costs: 1985)	$60,580,000	
Average Annual Costs (8-5/8% Interest)		$5,461,700
Total Average Annual Benefits:		
Flood Control	$ 7,945,000	
Flood Proofing Cost Reduction	530,000	
Total Average Annual Benefits		$8,475,000
Benefit/Cost Ratio 1.6 to 1.0		

Noteworthy, is the fact that the project is economically justified on the basis of flood damage reduction benefits alone. While other benefits are to be produced, they are not needed to produce a positive benefit/cost ratio. It should be noted that, while not included in the actual benefit calculations, the proposed project will create significant beneficial effects in the areas of water conservation, groundwater management, wildlife enhancement and recreation.

The anticipated distribution of the project costs (based on the draft General Design Memorandum and the new cost-sharing proposals) among the Federal Government, the State of California, and the local sponsor is as follows:

Federal Government	$45,435,000
State of California	8,064,000
Fresno Metropolitan Flood Control District (Plus Annual O & M of $230,000)	7,081,000
Total Project Cost	$60,580,000

PROJECT COST SAVINGS:
It is significant to note that the Corps of Engineers and the local sponsor have focused efforts in maximizing project design and construction efficiency. These efforts have led to certain structural reductions and construction coordination which have produced a 29% reduction in estimated project costs (down from $84,000,000 to $61,000,000). While each of the project units meets a separate benefit/cost test, each of the units is interdependent as to hydrological operation and construction and the savings noted above is not fully achievable without the concurrent construction and operation of all project units.

PROJECT STATUS REVIEW:
Review of the completed project report by the Division Engineer resulted in his concurrence with the investigative conclusions of the District Engineer.

Upon completion of the Division Engineer's review, additional study was undertaken at the request of the Board of Engineers, that additional study similar to that normally performed during the Phase I study which follows project authorization. Unfortunately, the additional study delayed the project approximately two years causing an estimated seventeen percent increase in project costs.

During July 1980, the Board of Engineers of Rivers and Harbors forwarded to the Chief of the Corps of Engineers the completed project report and environmental impact report. The report was subsequently forwarded to the Congress as House Document 98-147, bearing the date January 24, 1984. Subsequently, the project has undergone a third complete hydrological and economic evaluation during preparation of the General Design Memorandum. The results of this latest study have confirmed the previous results and cost savings.

The project has been included in legislation passing the House of Representatives during four sessions of the Congress. Though not enacted, the specially worded legislation reflected the awareness of Congress of the special needs associated with this project. As a result of these factors, the project has been allowed to proceed through all required investigations and design studies. The President's FY '87 budget provides for the first phase of construction which will produce immediate flood protection for the critically important Friant-Kern Canal of the Bureau of Reclamation's Central Valley Project.

The project is included in the resources development legislation passed by the House of Representatives (H.R. 6) and is included in the bill now pending in the Senate (S. 1567). Timely action by Congress effecting the necessary authorization and appropriation will save as much as an additional two-year delay in the project, thereby saving the taxpayers further increases in project costs.

CONCLUSION: REQUEST FOR AUTHORIZATION

On June 13, 1985, twenty-nine years had elapsed since Congress first authorized the proposed Redbank-Fancher Creeks Flood Control Project modification to the Fresno County Streams Project. The need for the project has been identified in a total of eight different studies and investigations performed at both the local and federal levels. The project feasibility investigation completed in July 1977 confirms the project need and identifies strong economic justification for the project construction. Further, the more advanced and detailed technical analysis associated with the General Design Memorandum has confirmed the project's need, economic strength, the previous recommendations of the Corps of Engineers and the requests of the local community.

Because it is our belief that the proposed Redbank-Fancher Creeks Flood Control Project has met all requirements for federal participation and meets all current standards of economic justification and environmental protection, we most respectfully urge the favorable action of the Committee and Congress in authorizing the Redbank-Fancher Creeks Flood Control Project funding.

STATEMENT OF THE MERCED COUNTY STREAMS GROUP, CALIFORNIA

My name is Jay Anderson, Secretary of the Merced County Streams Group in Merced, California. I am representing the County of Merced who together with the State of California is the sponsor of the Merced County Streams Project: The County is joined by the Merced Irrigation District, the City of Merced, the El Nido Irrigation District and the Le Grand-Athlone Water District.

The plan formulated by the Corps of Engineers, Sacramento District, recommends the construction of dams on Canal and Black Rascal Creeks, the enlargement of the existing Bear Creek Dam together with improvement of approximately 34 miles of channels and levees which collectively would provide for protection to about 55,000 acres of urban and agricultural lands. A major Federal Benefit of this project is the construction of Castle Dam, on Canal Creek, which would provide protection to Castle Air Force Base, a major installation of the Strategic Air Command. Partial protection to this facility is presently provided by diverting flood waters into the canal system of the Merced Irrigation District. This practice not only damages the water distribution system but diverts the water into foreign flood plains already impacted. The City of Merced, with a population of approximately 45,000, will also greatly benefit through the reduction in the threat of flooding.

The agricultural areas subject to flooding are planted to a variety of tree, vines, and row crops and comprise some of the finest agricultural lands in the San Joaquin Valley. Less than 2% of the 1985 was under any Federal or State subsidy.

The total Federal and Non-Federal cost of the project is estimated to be $104,000,000 and is economically feasible with a favorable benefit-cost ratio. Damages are estimated to be in excess of $7,000,000 per year without construction of the project. Portions of the project area were declared a Disaster Area due to heavy flooding in 1982-83.

Initial project studies by the Corps of Engineers were started in 1958 and led to Congressional authorization in 1970. Approximately $9,000,000 has been spect on the Phase I and Phase II planning by the Corps. The project is authorized for a construction start as part of the 1985 supplemental appropriations act.

The project has the support of State and Local authorities and negotiations are presently underway between the State of California and the County of Merced to fund the Non-Federal portion of the project.

We request your Committee's support for the inclusion of $3,000,000 in the FY 86/87 budget as recommended by the California Water Commission, the Corps of Engineers, and the current administration. The allocation of this amount will allow for the orderly development of the Merced County Streams Project, which is so vital to the Community, State and the Nation.

STATEMENT OF THE CITY OF SAN RAFAEL, CA

I wish to state for the record that the San Rafael Canal is utilized by a variety of commercial uses, namely:

1. Boat repair
2. Yacht brokering
3. Boat storage
4. Docking facilities (yacht harbors)
5. Commercial fishing
6. Commercial freight and passenger service

We have approximately 43 boat repair businesses that rely on the San Rafael Canal for their livelihood. They employ approximately 150 individuals. We have estimated that these employees generate approximately $3,120,000 in paid wages from the 43 boat repair contracts and are generally spent in San Rafael supporting our overall economy.

We have six yacht brokerage businesses adjacent to the San Rafael Canal. They employ approximately 17 employees. They have generated approximately $7 million in sales. This translates to $700,000 in brokerage fees and $42,000 in local sales tax revenue. The sales tax revenue is particularly important to San Rafael because approximately 51% of the City's operating budget is funded by City-wide sales tax revenue. Any decrease in this revenue could potentially affect our ability to deliver services.

We have three boat storage facilities adjacent to the San Rafael Canal. They store approximately 135 boats on lands adjacent to the Canal for a monthly fee of not less than $50 per boat per month. They employ approximately 10 individuals.

As a business enterprise, the four yacht harbors berth approximately 700 boats. They employ approximately 18 employees. The impact of this use is best seen in other areas of our community such as purchases of ships' chandleries, gas stations (for vehicles), supermarket purchases, fuel dock revenues, and so on.

There are four "for-hire" commercial fishing enterprises located in the Canal. These uses are seasonal depending upon which species is in season. Additionally, there is one firm that operates a commercial freight and passenger service in the Canal. We were not able to ascertain revenue amounts for these uses.

Lastly, the City operates a fire and rescue boat in the Canal and in portions of San Pablo Bay. Because the Coast Guard station at Point Richmond is so far away, we have, with concurrence of the Coast Guard, taken over rescue operations in our area. Needless to say, we will not be able to perform our rescue mission if the dredging is not accomplished. We have documented statistics that indicate our rescue operations have saved approximately $4 million in value for boats and have saved nearly 100 persons from possible drowning.

In summary, you can see that the use of the San Rafael Canal is much more than a recreational one. It supports a very healthy and thriving water oriented business community employing approximately 200 individuals and generating significant revenue for the City of San Rafael. I have attached some correspondence from businessmen adjacent to the Canal for your review.

The City Council of San Rafael, as well as the business people who rely on the San Rafael Canal for their livelihood, urgently request your consideration to appropriate the necessary funding to dredge the San Rafael Canal. If you need any additional information, we would be pleased to provide same.

LETTER FROM SAN RAFAEL YACHT HARBOR

Mr. Robert Bernardi
City Engineer
1400 5th Street
San Rafael, CA

RECEIVED
DEC 21 1984
PUBLIC WORKS DEPT.
CITY OF SAN RAFAEL

Dear Mr. Bernardi,

As the operator of the San Rafael Yacht Harbor which offers berthing to one hundred and forty boats near the center of the city, I want to register my concern for the silting-in of the San Rafael Canal since the last dredging was completed.

I feel that the two very severe winters that followed that dredging contributed considerably to the siltation problem. I have been in business on the canal since 1947 and it has been my observation that the years with the greatest rain fall are soon followed by complaints of boat-owners who find themselves aground at average low tides. We seem to have definately reached the situation again. It is time to set the wheels in motion again so that the U.S. Army Corps. can commence their regular maintenance (dredging) program.

Since the Grand Street bridge was contructed, dredging west of this street was no longer practical from the standpoint of a suction dredge. It is very noticeable, since that time, that the first area to shoal after a dredging is the first half-mile of the canal east of the Grand Street bridge. The next areas to shoal are the entrance to the Marin Yacht Club and to the LochLomond Marina. The shoaling in these last two areas is caused by poor hydraulics, not enough flushing action due to two dead-ended bodies of water. I feel the shoaling at the head waters of the canal is partly due to it being the end of the canal but is mostly due to run-off from the greater San Rafael area.

I would like to suggest that before any more building is done between Grand Street bridge and Irwin Street bridge, that this area of the canal be dredged to at least six feet below low water by use of a truck crane. This would create a sump capable of slowing some of the sediment from winter storms before it begins to shoal the commercially usable upper section of the canal.

Sincerely yours

W.C. Garvie

W.C. Garvie...Harbormaster

LETTER FROM MARIN YACHT SALES, INC.

RECEIVED
DEC 24 1984
PUBLIC WORKS DEPT.
CITY OF SAN RAFAEL

December 20, 1984

Mr. David M. Bernardi
Director of Public Works
City Engineer
City of San Rafael
1400 Fifth Ave., P. O. Box 60
San Rafael, CA 94915-0060

Dear Dave:
I feel the meeting of December 19, 1984 at Pier 15 with Congresswoman Barbara Boxer and the Army Engineers to discuss dredging of the San Rafael Canal went very well. I want to thank you for your help.

Also, it was encouraging to see so many of the local business people there who depend on the San Rafael Canal for the survival of their business.

As you know, I have owned and operated Lowrie Yacht Harbor, Inc. for over thirty years and in that period of time we have dredged our Marina four times. We are in the same position as many businesses along the San Rafael Canal. The survival of our businesses depends on the continued maintenance dredging of the Canal.

Your continued assistance in this direction will be greatly appreciated.

Sincerely,

B R Lowrie

B. R. LOWRIE
PRESIDENT

LETTER FROM MARINE ENGINEERING ASSOCIATES, INC.

December 19, 1984

Mr. David Bernardi
City of San Rafael
1400 Fifth Ave.
San Rafael, Ca. 94901

RECEIVED
DEC 24 1984
PUBLIC WORKS DEPT.
CITY OF SAN RAFAEL

Dear Mr. Bernardi,

Marine Engineering Associates has been on the San Rafael Canal for over twenty one years.

We have a 280' floating dock on the canal behind Monticeto Shopping Center where we do mechanical and electrical repairs on pleasure, commercial and government craft up to 90' in length and 10' in draft.

We are also involved in commercial towing and salvage.

We have seven fulltime employees with a payroll of $170,000. and gross sales of $600,000.

The rapidly deteriorating water depth is of great concern to us in our ability to continue servicing our customers boats at our dock.

We hope that means can be found to get a dredging project underway as soon as possible.

Sincerely,

John G. Moore
V-Pres - Treas.

LETTER FROM ALLIED MARINE SERVICE, INC.

December 19, 1984

Mr. David Bernardi
City of San Rafael
1400 Fifth Ave.
San Rafael, Ca. 94901

RECEIVED
DEC 24 1984
PUBLIC WORKS DEPT.
CITY OF SAN RAFAEL

Dear Mr. Bernardi,

Allied Marine Service operates a commercial freight and passenger vessel on San Francisco Bay.

Our base of operations is 269 Third St., San Rafael.

The "Allied Mariner" is 56' in length and has a draft of 6½' loaded. It is USCG certified for freight, passenger, towing and salvage service.

The present shallow depths encountered in the canal and the outer channel are becoming a real problem in our operations.

We hope that funding can be found for dredging in the near future so that we may remain in business in San Rafael.

Sincerely,

John G. Moore
V-Pres - Treas.

STATEMENT OF CALIFORNIA STATE SENATOR MILTON MARKS

Mr. Chairman and Members, thank you very much for the opportunity to testify today on the Fiscal Year 1987 appropriations for Water Resources and Development. I am Senator Milton Marks, representing San Francisco and Marin Counties, and I am Chairman of the California Senate's Committee on Maritime Industry.

In that role, I strongly support the recommendations of the California Water Commission, including the use of existing, unspent funds for a much-needed study of the Delta levee system so that we do not continue to have the annual winter devastation resulting from the impact of heavy rains on stressed levees.

Also, I urge you to adopt the recommendations of the California Marine Affairs and Navigation Conference because these projects are extremely important to the state's interests.

For example, without continued dredging of the San Francisco Harbor Bar, there can be no commercial navigational activity in San Francisco Bay. Not only would the Port of San Francisco be closed down, but five other commercial harbors inside the Bay, the tributaries leading to the Ports of Sacramento and Stockton and the private oil terminals would no longer be usable. The economic dislocations that would result are incalculable.

Your continued support for the completion of the Fisherman's Wharf Breakwater is vital to the commercial fishing industry and the shoreside businesses which depend upon a healthy fishing fleet. Additionally, working with the Wharf community, the Port of San Francisco has a commitment to revitalization of the fishing industry through the redevelopment of Pier 45. Funding from the State's Urban Waterfront Restoration Act and the California Coastal Conservancy budget also will go into the Pier 45 project. The success of that project is dependent upon completion of the Fisherman's Wharf Breakwater.

The Drift Removal O&M project for San Francisco Harbor and the Bay is important to us because of the threat to navigational safety that large floating debris poses.

Two of the California navigation, erosion and related public works projects before you for action are of particular concern to the Marin County portion of my District. One is the North Bay segment of the San Francisco Bay Shoreline study. As many of you are aware, flooding occurs with disturbing regularity every year in Marin County. The severity of flooding is such that the County usually is declared a disaster area during the winter rain season. Completion of the Feasibility Study now in progress would enable us to determine the best way to solve this problem.

While funding for the San Rafael Creek navigational dredging project was not in the President's budget last year, you approved the money to complete the first phase of this project. That phase, which includes dredging the channel across the flats leading to the Canal itself, has just gone out to bid. The budget proposal for FY 87 did not include funds for completion of the project, which would involve dredging of the inner channel, which is the Canal itself.

The Canal has become dangerously shallow due to a history of flooding problems and siltation. This request is not adding a new project to the budget because the San Rafael Creek Navigational Dredging Project was authorized as an ongoing maintenance project under the Harbors and Rivers Act of 1919 and the Corps of Engineers has routinely dredged this project about every six years.

The San Rafael Canal supports many commercial uses in addition to recreation. Currently there is a healthy water-oriented business community employing some 200 people and generating significant revenue for the City of San Rafael. One firm operates a commercial freight, passenger, towing and salvage service; another does mechanical and electrical repairs on commercial and government vessels up to 90' in length and 10' in draft and also is involved in commercial towing and salvage; and four "for hire" commercial fishing enterprises also are located in the Canal. The navigability of the San Rafael Canal is essential to these and other boating industry businesses and to the continued economic health of the City of San Rafael.

I respectfully request that this Subcommittee recommend completion of the second phase of the San Rafael Creek Navigational Dredging Project and that $1 million be appropriated in the Corps budget to accomplish this.

The San Francisco Bay Area's role in world commerce and national security is expanding. Your favorable recommendation for FY 87 funding of these projects will facilitate our ability to take advantage of these opportunities and be of great benefit to the economy of the Bay Area.

I appreciate your consideration. Thank you.

STATEMENT OF THE KINGS RIVER CONSERVATION DISTRICT, CALIFORNIA

The Kings River Conservation District and the people of the central county area of Fresno County, California are deeply appreciative of the opportunity to have our presentation heard by the honored members of the Congress. While the Redbank-Fancher Creeks Flood Control Project is not large by some standards, it is critically important to the Fresno-Clovis metropolitan area which is the business center of the most productive agricultural county in the world; gross annual production exceeding 2.0 billion dollars.

This report, first submitted in May 1971, has been prepared to substantiate the continuing vital need for flood control works specified in the Redbank and Fancher Creeks project report.

AUTHORIZATION:

The Redbank-Fancher Creeks Project is a modification of the existing Fresno County streams, California authorization incorporating the enlargement of the Big Dry Creek Dam and the containment of the balance of the stream group.

The Congress, on June 13, 1956, authorized the Corps of Engineers to re-investigate the stream group project, this following the major floods of 1955 and 1956. Unfortunately, funds were not provided and the Corps did not begin the investigation until the area had suffered its worst flooding in history during January and February of 1969. The release of funds and the start of the investigation occurred in July 1970, some fourteen years after Congressional authorization. Unfortunately, the floods of 1986 find the final authorization still pending.

PROJECT LOCATION AND NEED:

Redbank, Fancher, and Big Dry Creeks of the Fresno County Stream Group and their tributaries and related streams addressed by the project, are located on the western slope of the Sierra Nevada mountains. The watershed encompasses some one hundred seventy-five square miles and generates storm runoff which flows through the heart of the metropolitan area. The flows impact directly on the open irrigation canal system which transverses some 210,000 acres of the world's most productive agricultural land and 45,000 acres of a densely developed urban community with a population in excess of 350,000.

It is currently estimated that the floodplain to be protected by the proposed project includes 57,000 acres with a population of 120,000 (1982) and a market value in excess of 2.4 billion dollars. Total estimated average annual flood damages exceed $14,000,000 and affect both urban and agricultural properties.

HISTORY OF FLOODING:

As a result of the uncontrolled nature of the subject stream group, flooding has occurred frequently. Floods of record occurred in March 1938, December 1955, January 1956, January 1969, February 1969, March 1978 and January 1983. In addition, available records indicate flooding of lesser severity occurred in 1914, 1915, 1916, 1937, 1958, 1965, 1972, 1977, and 1986 with the streams and irrigation canal system overtopping their banks on the average of once every four years since 1953.

Although the recent floods which occurred in March 1978, January 1983, and February 1986 were of a lesser magnitude than those of 1969, thousands of dollars in damages to private homes, public roads, irrigation facilities and hundreds of acres of prime agricultural lands were experienced. Such floods again demonstrated the urgent need for immediate construction of flood control works.

LOCAL SUPPORT:

Following the floods which occurred in January and February 1969, the Fresno Area was declared a part of California's disaster area.

With the realization that millions of dollars in flood damages could have been prevented and that a reocurrence of such floods would be even more devastating, a public hearing on the subject of needed flood control works was held on February 28, 1969. Hundreds of the community's citizens representing some seventy-five public and private organizations met and drafted resolutions to the U.S. Army Corps of Engineers and legislative representatives urging the active pursuit of Redbank-Fancher Creeks Flood Control Project. Subsequently, the County of Fresno, the Cities of Fresno and Clovis, the Fresno Metropolitan Flood Control District, and the Fresno Irrigation District authorized direct work with the Corps of Engineers and the Congress to secure adequate flood protection for the Fresno-Clovis metropolitan area.

In an effort to ensure the availability of lands needed for the required flood control structures, the County of Fresno acting jointly with the Fresno Metropolitan Flood Control District did, on October 22, 1974, effect open-space and conservation zoning of approximately 500 acres. More recently, the Cities of Clovis and Fresno, the County of Fresno, and the Fresno Metropolitan Flood Control District, have signed contracts appropriating $335,000 per year to acquire the necessary project lands. Project land acquisition is now well under way.

Relatedly, the California Water Commission has historically supported and continues to support the project. Further, the State Reclamation Board has submitted a supporting letter of intent for local assurances. Most recently, the California Legislature has passed and the Governor has signed legislation authorizing State support of and financial participation in the project.

At the local level, a broadly based Citizens Project Advisory Committee has been created by the Flood Control District. The Committee and the sixteen community organizations and agencies it represents have reviewed and confirmed the project's need and design features. The Committee has also structured a financing plan to ensure the availability of the required local cost share and the equitable distribution of those costs.

ENVIRONMENTAL CONSIDERATIONS:

Upon completion and distribution of the Draft Feasibility Report and Draft Environmental Impact Statement, a public hearing was held within the project area by the Fresno Metropolitan Flood Control District, the local project sponsor, and the U.S. Army Corps of Engineers. Testimony submitted during the subject hearing indicated that there are no areas of controversy associated with the project or its limited environmental impact. In summary, the testimony received confirmed the accuracy of the Draft Environmental Impact Statement in identifying only limited impacts and the adequacy of the proposed mitigation measures. It was also apparent that any adverse environmental impact which might be associated with the project during the brief construction period would be of a temporary nature and insignificant when compared with the permanent environmental and social benefits which would be derived by the construction of the needed works. Even at the current advanced stage of the project, the only negative voice has been limited to a few of those who own land required for the project. Subsequent environmental studies and actions by the local sponsor have addressed these limited points of objection.

PROJECT FEASIBILITY AND FINANCING:

The complete report, supplemented by additional detailed studies, substantiates the need for the proposed project and identifies strong economic justification. The project costs and benefits reflected by the draft General Design Memorandum are as follows:

(Total First Costs: 1985)	$60,580,000	
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Benefit-Cost Ratio 1.6 to 1.0

Noteworthy, is the fact that the project is economically justified on the basis of flood damage reduction benefits alone. While other benefits are to be produced, they are not needed to produce a positive benefit-cost ratio. It should be noted that, while not included in the actual benefit calculations, the proposed project will create significant beneficial effects in the areas of water conservation, groundwater management, wildlife enhancement and recreation.

The anticipated distribution of the project costs (based on the draft General Design Memorandum and the new cost-sharing proposals) among the Federal Government, the State of California, and the local sponsor is as follows:

Federal Government	$45,435,000
State of California	8,064,000
Fresno Metropolitan Flood Control Dist. (Plus Annual O & M of $230,000)	7,081,000
Total Project Cost	$60,580,000

PROJECT COST SAVINGS:

It is significant to note that the Corps of Engineers and the local sponsor have focused efforts in maximizing project design and construction efficiency. These efforts have led to certain structural reductions and construction coordination which have produced a 29% reduction in estimated project costs (down from $84,000,000 to $61,000,000). While each of the project units meets a separate benefit/cost test, each of the units is interdependent as to hydrological operation and construction and the savings noted above is not fully achievable without the concurrent construction and operation of all project units.

PROJECT STATUS REVIEW:

Review of the completed project report by the Division Engineer resulted in his concurrence with the investigative conclusions of the District Engineer.

Upon completion of the Division Engineer's review, additional study was undertaken at the request of the Board of Engineers, that additional study similar to that normally performed during the Phase I study which follows project authorization. Unfortunately, the additional study delayed the project approximately two years causing an estimated seventeen percent increase in project costs.

During July 1980, the Board of Engineers of Rivers and Harbors forwarded to the Chief of the Corps of Engineers the completed project report and environmental impact report. The report was subsequently forwarded to the Congress as House Document 98-147, dated January 24, 1984. Subsequently, the project has undergone a third complete hydrological and economic evaluation during preparation of the General Design Memorandum. The results of this latest study have confirmed the previous results and cost savings.

The project has been included in legislation passing the House of Representatives during four sessions of the Congress. Though not enacted, the specially worded authorization reflected the awareness of Congress of the special needs associated with this project. As a result of these factors, the project has been allowed to proceed through all required investigations and design studies. The President's FY '87 budget provides for the first phase of construction which will produce immediate flood protection for the critically important Friant-Kern Canal of the Bureau of Reclamation's Central Valley Project.

The project is included in the resources development legislation passed by the House of Representatives (HR6) and is included in the bill now pending in the Senate (S1567). Timely action by Congress effecting the necessary authorization and appropriation will save as much as an additional two-year delay in the project, thereby saving the taxpayers further significant increases in project costs.

CONCLUSION: REQUEST FOR AUTHORIZATION

On June 13, 1985, twenty-nine years had elapsed since Congress first authorized the proposed Redbank-Fancher Creeks Flood Control Project modification to the Fresno County Streams Project. The need for the project has been identified in a total of eight different studies and investigations performed at both the local and federal levels. The project feasibility investigation completed in July 1977 confirms the project need and identifies strong economic justification for the project construction. Further, the more advanced and detailed technical analysis associated with the General Design Memorandum has confirmed the project's need, economic strength, the previous recommendations of the Corps of Engineers and the requests of the local community.

Because it is our belief that the proposed Redbank-Fancher Creeks Flood Control Project has met all requirements for federal participation and meets all current standards of economic justification and environmental protection, we most respectfully urge the favorable action of the Committee and Congress in authorizing the Redbank-Fancher Creeks Flood Control Project funding.

STATEMENT OF THE SANTA ANA WATERSHED PROJECT AUTHORITY, CALIFORNIA

Mr. Chairman, my name is Andrew Schlange, General Manager of the Santa Ana Watershed Project Authority (SAWPA) and I appreciate the opportunity of submitting our agencies' request for funding of a USBR Small Projects Loan Program. The Authority hereby requests continued funding authorization in the amount of $8,714,000 as outlined in the President's 1986/87 Budget for construction of an Imported Water Conveyance System to serve water customers in a portion of Riverside County, California. As stated in previous testimony, this project is necessary to alleviate the reduction in water supplies to this area from the Colorado River. The new system being constructed will provide water from another source to supply established water uses, the majority of which is agricultural. The project consists of 85,000 feet of water line, a pump station and a 10 million gallon reservoir. Funds made available in the 1985/86 budget have allowed project design and partial construction to begin. Right-of-way acquisition is now underway, using local funds. The Loan Application Report was approved by the Secretary of the Interior on October 3, 1983 and contracts were executed with the USBR on February 11, 1985. To date, approximately $800,000 has been directly spent on the project. No grant funds are being requested. All Federal funding will be repaid. The following summarizes the project funding:

Total Project Cost		$ 18,728,000
Loan (30 year repayment)		$ 14,917,000
Local Contribution		$ 3,811,000
Rights-of-way	($ 100,000)	
Loan Application	(175,000)	
CEQA-EIR	(25,000)	
Filing Fee	(1,000)	
Local Administration of loan	(10,000)	
Proposed Pump Station	(1,226,000)	
Cash	(2,274,000)	

PROPOSED IMPORTED WATER CONVEYANCE SYSTEM

PROJECT SUMMARY

LOCATION

The Santa Ana Watershed Project Authority (SAWPA) is located within the boundary of the Santa Ana Watershed and includes portions of Orange County, Riverside County and San Bernardino County, approximately 55 air miles east of the city of Los Angeles, California.

ORGANIZATION

SAWPA was legally organized in 1973 under the laws of the State of California. SAWPA was created under a joint powers agreement between Western Municipal Water District, Chino Basin Municipal Water District, San Bernardino Valley Municipal Water District and Orange County Water District. In 1984, Eastern Municipal Water District joined the agency. SAWPA was created by these districts to act on their behalf in such matters as planning, constructing, operating and maintaining irrigation, water quality improvement or other projects financed privately or through loans or grants. The agency has authority to execute a contract with the United States for repayment of the loan, has the power of eminent domain and has authority to raise funds through assessments to member agencies as necessary for repayment of the loan.

PLAN

Western Municipal Water District of Riverside County, California, one of the five member agencies of SAWPA, currently relies on imported Colorado River Water supplied by the Metropolitan Water District of Southern California (MWD) as its sole source of supply. MWD currently has a contract entitlement of 2,011,500 acre feet per year of State Project Water and 1,212,000 acre feet per year of Colorado River Water. Completion of the Central Arizona Project and Arizona use of its Colorado River Rights will cause MWD's Colorado River Water Entitlement to be reduced to 550,000 acre feet per year, a reduction of 55 percent compared to the current entitlement.

The SAWPA project will protect the existing agricultural economy in this portion of Western Municipal Water District by providing conveyance facilities to transport State Project water from MWD's Box Spring Feeder to agricultural users in lieu of the diminished Colorado River Water. The higher quality State Project water would provide additional benefit by decreasing the amount of applied water necessary to optimize crop yields.

PHYSICAL WORKS

The principle project features are shown on Figure 1 and include:

1. Gravity pipeline beginning at the upstream side of the Mills Filtration Plant and running westerly approximately 65,000 feet. This pipeline would start as a 36-inch diameter line with a capacity of 32.5 cfs.
2. Ten million gallon storage reservoir located near the westerly end of the gravity pipeline. This reservoir would provide storage equal to approximately one-half the ultimate maximum day demand for balancing diurnal flow variations and as protection against emergency outage of the Box Springs Feeder.
3. Pressure pipeline beginning at the downstream side of the Mills Filtration Plant and running southerly approximately 18,300 feet. This pipeline would start as a 36 inch diameter line with an ultimate capacity of 41.7 cfs. An additional 12.2 cfs will be transported by existing pipelines in the area. The pipeline would connect to an existing distribution system which currently conveys treated Colorado River water from a southerly supply point.
4. Pumping station expansion at the site of the Mills Filtration Plant, supplying water to the pressure pipeline. The added facilities would be capable of pumping 33.3 cfs at a total dynamic head of 170 to 220 feet, to increase total plant capacity to 53.9 cfs.

STATEMENT OF THE KERN COUNTY BOARD OF SUPERVISORS, THE KERN COUNTY WATER AGENCY, THE ARVIN-EDISON AND KERN DELTA WATER DISTRICTS, AND THE LAMONT STORM WATER DISTRICT, CALIFORNIA

Dear Mr. Chairman and Members of this Subcommittee:

My name is Ben Austin. I am the Supervisor of the Second District of Kern County, California. I appear before you on behalf of the Kern County Board of Supervisors, the Kern County Water Agency, the Arvin-Edison and Kern Delta Water Districts, and the Lamont Storm Water District.

With me today are several representatives of Kern County. Together, we hope to impress upon you the vital importance of continuing the current studies to find a permanent solution to critical flood problems of Caliente Creek in the Arvin-Lamont area of Kern County. While they will not address you at this time, they do want you to know that they are here. They are: Randall L. Abbott, Director of the Department of Planning and Development Services, and Terry L. Paxton, Civil Engineer, Floodplain Management Division of the Department of Planning and Development Services. In addition, we are privileged to include in our delegation, our consultant, Mr. Amalio Gomez.

Over the past year, the Corps of Engineers, in cooperation with the County and the Kern County Water Agency, has made significant progress in the study of major aspects of our Caliente Creek flood problems. Study results are summarized in the Caliente Creek Progress Report dated March 1986, previously submitted to your technical staff by Mary Dignan, consultant to the Kern County Water Agency. The Kern County Water Agency continues to serve admirably as lead agency on the project, and I commend them for their efforts.

Our interest today, however, is in Fiscal Year 86-87 funding for the Corps of Engineer's Caliente Creek Flood Control Feasibility Study, which is a three-year project initiated during the Fiscal Year 84-85. The Fiscal Year 86-87 appropriation we seek will fund the remaining feasibility work required to complete the study.

The estimated cost of the feasibility study is about $1.2 million. We have been informed by the Corps of Engineers that beginning on March 15, 1986, the cost of the investigation will be shared with local interests on a 50/50 basis. We have also been advised that the total federal expenditures on the feasibility study up to March 15, 1986, will be about $500,000, and that the remaining cost to be shared is $700,000. The local share will be $350,000, one half of which will consist of services in kind and the other half will be a cash contribution, payable in advance every three months.

Anticipating sharing of cost, the Kern County Water Agency, on February 1, 1985, signed a 50/50 cost-sharing agreement with the Corps of Engineers to continue the feasibility study. This agreement commits Kern County to provide $200,000 per year for the study. Half of that amount is to be in cash, while the other half is to be in in-kind services. We are among the first--and the few--in the nation to enter into a cost-sharing agreement of this type with the Corps of Engineers.

The heartening and historic significance of this event lies in the fact that the members of the Caliente Creek Flood Control Task Force all agreed to participate in the cost-sharing agreement and have subsequently entered into a local cost-sharing agreement for that purpose. Today the County of Kern, the Kern County Water Agency, the Lamont Storm Water District, and the Arvin-Edison and Kern Delta Water Districts all are sharing the burden of study costs. This demonstration of the spirit of working together for the common good will, I believe, continue until a dam and flood channels are constructed, harnessing the destructive floodwaters of Caliente Creek, which in 1978 and 1983 caused over $31 million of damage to public and private property.

The Sacramento District of the Corps of Engineers believes that there is a reasonable chance that the Corps will be able to transfer some investigation funds from other areas in the country to the Caliente Creek investigation for use during the balance of the current fiscal year; possibly about $100,000. On this basis, the funding schedule would be as follows:

	Federal Cost	Local Cost
Remaining Appropriated Funds as of March 15, 1986	$ 30,000	$ 30,000
Probable Transfer of Funds	100,000	100,000
Amount in President's Budget	120,000	120,000
Funding Required for Fiscal Year 87-88	100,000	100,000
TOTAL COST	$ 350,000	$ 350,000

On this basis, it is evident that the report cannot be submitted as scheduled in February 1988. A more realistic date is November 1988. This delay can be prevented by having a somewhat larger appropriation for Fiscal Year 86-87, as indicated on the schedule below:

	Federal Cost	Local Cost
Remaining Appropriated Funds as of March 15, 1986	$ 30,000	$ 30,000
Probable Transfer of Funds	100,000	100,000
Appropriation in Fiscal Year 86-87	200,000	200,000
Appropriation in Fiscal Year 87-88	20,000	20,000
TOTAL COST	$ 350,000	$ 350,000

This procedure would require only a small appropriation of $20,000 in Fiscal Year 87-88 to cover the minor procedural expenses during the few months preceding formal submittal of the report in February 1988. Therefore, a funding of $200,000 in Fiscal Year 86-87 would be in accord with the optimum schedule for submitting the report in February 1988.

It is our desire that the feasibility study be completed and the design phase initiated in the least amount of time possible. This will reduce the potential for major flood damage and will protect public and private property as well as human life. We, therefore, recommend that the amount to be appropriated for Fiscal Year 86-87 for the Caliente Creek investigation be raised from the $120,000 included in the President's budget to $200,000. This action would prevent a delay of nine months or more in the final submission of the feasibility report.

Thank you very much for your consideration.

STATEMENT OF OCEANSIDE, CA

As I have in previous years, I am here to ask your support for $1.5 million in the FY 87 budget for the San Luis Rey River Flood Control Project. This project is urgently needed to provide protection to over 4,000 dwellings and 59 businesses located within the floodplain.

The City of Oceanside has already commenced construction of this vital project by building $0.5 million in flood control improvements at the easterly end of the project under a Section 215 Agreement with the Federal government. The proposed $1.5 million in new construction funding would allow completion of the project reach from the Ocean to I-5, and preparation of plans and specifications for the subsequent construction reach.

Oceanside has suffered substantial flood damage in recent years from relatively small floods along the San Luis Rey River. The Corps of Engineers predicts that a major storm would cause over $100 million in damage. Delays in construction funding not only escaldte project costs, but they also increase the risk of further costly flood damage.

The Corps of Engineers' proposed single levee flood control design was unanimously approved by the Oceanside City Council and is strongly endorsed by neighborhood associations. The Los Angeles District Corps of Engineers as recently as February, 1986, has verified that the adopted plan is the only economically and environmentally sound alternative for providing flood protection in the area.

On behalf of the City of Oceanside, I would like to respectfully request that the Subcommittee include $1.5 million for the San Luis Rey River Flood Control Project in your FY 87 Energy and Water Development Appropriation Bill.

STATEMENT OF SACRAMENTO VALLEY WESTSIDE CANAL ASSOCIATION

STATEMENT IN SUPPORT OF FISCAL YEAR 1986-87 APPROPRIATIONS

The Sacramento Valley Westside Canal Association supports and respectfully requests Fiscal Year 1986-87 appropriations for financing the U.S. Bureau of Reclamation's program item, Sacramento River Division, in the amount of $1,060,000.

The Sacramento Valley Westside Canal Association (Association) hereby affirms its support for completion of the Tehama-Colusa Canal and the delivery of water from the Central Valley Project to all districts within the authorized service area. Using this opportunity, the Association reaffirms its support for performing the modifications proposed for the diversion facilities for the Tehama-Colusa Canal Project and the modifications and monitoring to resolve fishery related problems. Specifically, the Association supports and respectfully requests appropriation for Fiscal Year 1986-87, as presented on the Association's statement.

Additionally, the Association hereby expresses support for completion of the Tehama-Colusa Canal Project with the construction of a "large" Oat Reservoir at the terminus of the Tehama-Colusa Canal and the delivery of water to the Yolo-Zamora Water District. In this regard, please be advised that the Association unanimously reaffirmed its Resolution 84-1 (copy enclosed).

Your recognition and consideration of the Association's request is appreciated.

SACRAMENTO VALLEY WESTSIDE
CANAL ASSOCIATION
RESOLUTION NO. 84-1

WHEREAS, there is a need to construct an adequate regulating and storage reservoir at the terminus of the Tehama-Colusa canal; and the most desirable location for said reservoir is at what is known as Oat Creek where it intersects the eventual terminus of the Tehama-Colusa canal; and

WHEREAS, it is desirable that said reservoir be of sufficient size not only for water storage but as a regulating reservoir for the Tehama-Colusa canal system; and

WHEREAS, it would be wasteful to expend funds for a smaller reservoir at this time only to have to enlarge the reservoir at a later date as water for such an enlarged service area becomes available; and

WHEREAS, an Oat Creek Reservoir of adequate size (approximately 14,000 acre-feet capacity) has been included in the Presidents's proposed budget for fiscal 1984/85 at a partial cost of approximately $8,200,000.00;

NOW THEREFORE, BE IT RESOLVED:

(1) That the Sacramento Valley Westside Canal Association supports

passage of the aforesaid appropriation for fiscal 1984/85 of 8.2 million dollars for the large Oat Creek Reservoir upon the following terms and conditions:

(a) That the water supply that will become available for the Tehama-Colusa canal service area out of the Coordinated Operating Agreement between the State of California and the U.S. Government be allocated first to the service area of the Tehama-Colusa canal as it now exists; and

(b) That the legislative report in support of the aforesaid appropriation specifically provide that the appropriation shall not be construed to constitute an "authorization by appropriation;" that any extension of said service area be done only by specific legislative authorization; and

(c) That the water requirements of the Yolo-Zamora Water District receive the highest priority as it has no supplemental water supply at the present time; originally applied for a water service contract as early as 1958 and is the only water district in the entire service area lying south of and at a lower level from the proposed Oat Creek Reservoir and Tehama-Colusa canal (a gravity canal) and is, therefore, essential for the complete functioning of the reservoir as both a regulating and water storage feature of the Tehama-Colusa canal; and

(d) That present and future needs for supplemental water in the existing service area of the Tehama-Colusa canal, and for any lands which may hereafter be annexed thereto, fully anticipate and take into account the impact of the following factors:

1. Changing crop patterns in the future which may require increased allocations of supplemental water.

2. All adverse effects such as boron or other contamination in the underground water supply.

3. The fact that an inadequate supply of supplemental water leads ultimately to overdrafting of the underground water supply thus causing subsidence in underground aquifers which is irreversible.

Passed and adopted unaimously by the members in attendance at the Sacramento Valley Westside Canal Association meeting on this 17th day of March 1984.

ATTEST:

James F. Eagan

James F. Eagan, Secretary

Twyla J. Thompson

Twyla J. Thompson, President

STATEMENT OF THE CONTRA COSTA WATER DISTRICT, CALIFORNIA

SACRAMENTO - SAN JOAQUIN DELTA WATER QUALITY

Honorable Chairman and Committee members, my name is John E. DeVito, General Manager of the Contra Costa Water District, a public agency of the State of California.

For over forty-five years, Contra Costa Water District by way of repayment contracts with the U.S. Bureau of Reclamation, has been responsible for the water supply for some 300,000 people, 23 industries that employ over 16,000 employees, and 150 small firms, through the Contra Costa Canal System, the first unit of the Federal Central Valley Project. The District also diverts water from the Delta under a vested water right dating back to the 1930's prior to the CVP. We depend solely and totally on the Sacramento - San Joaquin Delta for our water supply.

Due to the USBR's over-commitment of the CVP water supply and build-ups in exports from the Delta, we will experience re-occurring increased salt water intrusion in the Delta, to a level that is adverse to public health, causes loss of certain industrial products adds severe penalty treatment costs to all industry, and causes damage to irrigated plants. (Note attachments.)

These adverse effects on public health, industry and agriculture occurred during 1959 - 1960 - 1961, due to USBR operations, and occurred again during the 1976 - 1977 drought, due to the obvious over-commitment of the CVP. For 161 days in 1959 and 143 days in 1961, due to USBR export pumping caused salt water intrusion, the Water District distributed notices to the County Health Department, doctors, hospitals, and the press warning of high sodium levels in the water supply. USBR statements indicate that these poor water quality levels will occur in the future during normal years.

Accordingly, Contra Costa Water District respectfully requests the support for the conditions necessary to protect the beneficial uses in the Sacramento-San Joaquin Delta, San Francisco Bay and Suisun Marsh, with particular attention to:

No. 29 New Melones Lake

The Contra Costa Water District reaffirms its position that the appropriations should be conditioned to provide that New Melones Reservoir shall be operated in accordance with the provisions of Decision 1422 of the State Water Resources Control Board. Contra Costa Water District support is contingent upon expeditious acquisition of reparian habitat and flood easements downstream of the dam and resolution of downstream salmon problems related to release schedules, flow and temperature.

No. 47 Auburn - Folsom South Unit

The Contra Costa Water District supports economic, environmental and fish and wildlife studies recommended by former Secretary of the Interior, Cecil Andrus. The Contra Costa Water District opposes appropriations of construction of Auburn Dam until the following have been completed:

1. Congress has reauthorized Auburn Dam.
2. The Bureau of Reclamation agrees to comply with provisions of Decision 1400 of the California State Water Resources Control Board;
3. The State has approved the design of the dam finally selected.

No. 50 San Luis Unit - San Luis Drain

Due to high concentrations of chemicals, including selenium, various heavy metals, agricultural pesticides and herbicides contained in San Luis drainage water.

Contra Costa Water District must expand its opposition on behalf of the water supply integrity of not only the beneficial uses in Contra Costa Water District, the Bay, the Delta, and all exporters from the Delta, but also on behalf of all Californians who must bear the economic and environmental consequences of an over-committed Federal and State water supply.

Closure of Kesterson Reservoir by the USBR does not solve the San Joaquin Valley agricultural drainage problems nor does it prevent toxic agricultural drain water from being discharged into the Delta by way of the San Joaquin River.

We urge the Congress to appropriate funds for the USBR towards solving the agricultural drainage problems in the San Joaquin Valley and also prevent the discharge of drainage water into the Delta or streams tributary to the Delta.

No. 61 Delta Support Studies including Suisun Marsh

Bureau of Reclamation and Department of Water Resources agree that operation of the Federal Central Valley and State Water Projects have adverse effects on municipal, industrial and agricultural users as well as on fish and wildlife in the Sacramento-San Joaquin Delta and San Francisco Bay Estuary. State Water Resources Control Board's Decision 1485 requires environmental studies be continued for use in future State water rights hearings.

Contra Costa Water District urges full fundings for these studies including efforts in the Bay and Suisun Marsh.

No. 62 San Felipe Division

Contra Costa Water District strongly urges Congress not to underfund or lower the budget level. More cuts will seriously disrupt the plans to meet the needs of Santa Clara and San Benito Counties. However, Contra Costa Water District urges the Congress to provide that all diversions of water from the Delta by the Bureau of Reclamation be subject to federally approved Delta water quality standards.

No. 79A Off Stream Storage

Contra Costa Water District supports funding of feasibility investigations for the Los Vaqueros Reservoir and the Los Banos Grande Reservoir. Los Vaqueros could also be used to provide an urgently needed standby or emergency water supply along with water quality benefits for other Bay Area water agencies such as East Contra Costa Irrigation District, Santa Clara Valley Water District, Alameda County Water District, Alameda County Flood Control and Water Conservation District Zone 7, East Bay Municipal Utility District, City of San Francisco, etc.

No. 80A Delta Water Management Program

Contra Costa Water District supports reprogramming an additional $400,000 to develop a program that would correct or at least minimize Delta water quality problems caused by water transfers.

No. 84 Environmental and
Interagency Coordinations
Activities, Mid-Pacific
Region

In closing, we respectfully urge your support for Senate passage of the house approved version of HR 3113 which:

Directs the USBR to operate the Federal Central Valley Project jointly with the State Water Project, so that effectively and efficiently, the Sacramento-San Joaquin Delta water quality standards can be met, as well as increasing the water supply yield of the two projects.

Has the unique support of both environmental and water interests.

Will maximize local and State project financing and minimize the need for federal appropriations.

Please accept our appreciation for this opportunity to appear, and may this statement be made part of the record.

STATEMENT OF SONOMA COUNTY WATER AGENCY, CALIFORNIA

Mr. Chairman and Members of the Subcommittee -- I am Robert F. Beach, General Manager of the Sonoma County Water Agency (State of California). We urge that the subcommittee support the request for $11.0 million included in President Reagan's proposed budget for the Warm Springs Dam - Lake Sonoma Project in Sonoma County, California.

For the past twenty-five years we have annually represented to you our support for the Warm Springs Dam Project. We have recounted floods and droughts and described the benefits that would flow from the completion of this project. That day is now at hand. The U. S. Army Corps of Engineers closed the outlet works gates and began deliberate impoundment of water one year ago last November. During the massive rainstorms that swept Northern California in February, the project demonstrated its flood control value by reducing what was nevertheless a record flood stage in the lower Russian River by five feet, preventing enormous additional damage.

The construction work planned for next year consists primarily of completion of a minimal recreation plan. The proposed recreation facilities included in the minimal recreation plan are only a fraction of those contemplated in the Lake Sonoma Master Plan. The prospect of these basic recreational facilities was clearly a major consideration in the decision to sponsor the project and in the subsequent referenda supporting the Warm Springs Dam Project. Failure to complete these facilities as proposed in the budget request would place the County of Sonoma in a most difficult position.

Between the Corps and the County, many millions of dollars have been spent to improve, realign or construct approximately 38 miles of road to and on the Warm Springs Dam recreational site. These roads provide excellent access to all parts of the lake. The availability of water and open public land will create a major attraction with excellent access within a short drive from most of the highly urbanized San Francisco Bay Area. The County currently can visualize no effective means of controlling this access. Consequently, major problems can be anticipated for the County that would result from the failure of the Corps and the federal government to fulfill previous understandings and obligations to provide satisfactory organized recreational facilities designed to accommodate the anticipated visitor traffic. A partial list of expected problems would include:

1. Inability to control individuals from entering undeveloped areas resulting in inappropriate camping, fishing and hunting, poor sanitation, high fire danger, and difficult evacuation in the event of illness or injury;
2. Environmental degradation of the area because of potential foot, animal, or vehicle traffic in areas not appropriately improved to handle this access;
3. Substantial and costly law enforcement requirements to attempt to control traffic and access to the area.

We appreciate the support the Warm Springs Dam Project has received from this subcommittee over the years and look forward with great anticipation to the full realization of the flood control, water supply and recreational benefits of the project.

STATEMENT OF THE MID-VALLEY WATER AUTHORITY, CALIFORNIA

My name is George D. McKean and I am Chairman of the Board of Directors of the Mid-Valley Water Authority. I am appearing today in support of the U.S. Bureau of Reclamation's Feasibility Investigation line item entitled San Joaquin Valley Conveyance Study requesting the Committee to allocate $500,000, if necessary from existing Bureau of Reclamation general investigation appropriations in the President's budget, for advance planning and preliminary engineering design for the selected project alternative of the on-going feasibility study that will be completed this fiscal year. Without these funds a hiatus in the orderly development of the Mid-Valley Canal Project will occur.

SUMMARY

The Mid-Valley Water Authority (MVWA), a Joint Exercise of Powers Agency, consisting of 29 public agencies in six counties of the San Joaquin Valley, California, was formed December 3, 1982. The service area of the MVWA covers approximately 3.4 million acres of irrigated agriculture, and has a long-term groundwater overdraft of 1.5 million acre-feet per year.

The Bureau of Reclamation has identified unallocated firm CVP water as a result of the Coordinated Operations Agreement with the State Department of Water Resources (DWR), operations of the Trinity River, interim CVP water available from non-use of allocations under existing contracts, and additional surplus CVP water of approximately 1.1 million acre-feet per year, a portion of which will be subject to contractual negotiations with the MVWA upon the removal of the moritorium, as imposed by former Secretary of Interior Andrus, of further contracts for delivery of water from the Delta.

The President's Budget for fiscal year 1985-86 provided sufficient funds to complete the planning study for determining the most economical routing of the Mid-Valley Canal for delivery of additional supplemental water supplies to help resolve the groundwater overdraft within the MVWA service area.

The Mid-Valley Canal Project authorizing legislation, HR3182 and S1898, has been introduced in the Congress. Should the Congress fail to authorize the project this session there would be no funds available during fiscal year 1987. Therefore, the Authority urges the Committee to allocate $500,000 for the San Joaquin Valley Conveyance Investigation advance planning to continue the orderly development of the project

ORGANIZATION

The Mid-Valley Water Authority was organized under the Joint Exercise of Powers Act, Articles I and II of Chapter 5 of Division 7, Title 1 of the Government Code of the State of California (Section 6500 et seq.) on December 3, 1982. The public districts, which are members of the MVWA and their percentage of participation therein, are set forth in Table 1. Each of the 29 public agencies is represented by a director and alternate on the Board of Directors and on an Advisory Committee. The MVWA was organized as an institutional device for the continuation and coordination of the various efforts that have been independently pursued by the member agencies to secure a supplemental water supply and the construction of a conveyance facility for the delivery of the supplemental water supply to the MVWA service area.

SERVICE AREA

The MVWA includes a service area of approximately 3.4 million acres of irrigated agricultural lands. The boundary of the MVWA extends from the Merced County line on the north to the southerly boundary of the Arvin-Edison Water Storage District on the south, and generally from the Sierra foothills to the trough of the San Joaquin Valley.

Lands within the Counties of Madera, Merced, Fresno, Kings, Tulare and Kern are of membership in the MVWA. A map of the MVWA service area is included as Plate 1.

HISTORY

The lands included within the Mid-Valley Water Authority are, for the most part, lands which are presently under cultivation and indeed, these areas were some of the earliest extensively irrigated lands in the State.[1] While the service area of the Mid-Valley Water Authority was included within the planning for the integrated operation of the Central Valley Project, the construction of a delivery facility (Mid-Valley Canal) has not been accomplished. Studies for the development of the East Side Division of the Central Valley Project proceeded through the late 1950's and early 1960's and a proposed feasibility report for the East Side Division, Initial Phase, was sent to the Secretary of the Interior in 1968.[2] As the overall imbalance between the available water supplies and the consumptive demands became more and more apparent, the member agencies independently persisted in their efforts to urge the federal and state governments to proceed with the development of a delivery capability for the Central Valley Project waters that were and are available in the Delta to the area now included within the Mid-Valley Water Authority. As a result of these efforts, the State Department of Water Resources and the U.S. Bureau of Reclamation jointly studied the construction of a Mid-Valley Canal which would incorporate features of the State Water Project and the Delta Mendota Canal of the CVP. Those studies culminated in the publication of a report entitled "Mid-Valley Canal, East Side Division, Central Valley Project, California, 'A report on the Mid-Valley Canal Feasibility Investigation' U.S. Department of the Interior". (January, 1981). The Report contained an extensive consideration of the needs within the proposed service area and the hydrologic, environmental and economic considerations of constructing the proposed facility as a federal facility. In conjunction with that report, tentative allocations of the available CVP water supply were made among the various agencies that were seeking to participate, those allocations being predicted upon criteria developed by the Bureau of Reclamation.

When the study for the Mid-Valley Canal was commenced, the Bureau of Reclamation had identified a firm annual water supply in the Delta of approximately 500,000 acre-feet as available for export to the proposed service area. Before the report could be completed, the Bureau of Reclamation revised its estimations of the marketable CVP yield in light of Delta water quality considerations.[3] In view of these revised yield calculations, the report proposed that there be no federal action for Congressional authorization of the Mid-Valley Canal until a firm water supply is available. The report does conclude, however, that the Mid-Valley Canal service area should be considered as an area to utilize any additional yield originating from existing CVP facilities.

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[1] Central Valley Project Documents Part 1, Authorizing Documents, 84th Congress 2nd Session House Document #416 (1956) Intro. pp I-16.

[2] East Side Division, Initial Phase, Central Valley Project California "A Report on the Feasibility of Water Supply Development". U.S. Department of the Interior, Bureau of Reclamation (December 1965 Rev. June 1966).

[3] Mid-Valley Canal Feasibility Study, p. 66.

While the Mid-Valley Canal that was the subject of the aforesaid feasibility investigation has not been authorized for construction, the residents and public agencies within its projected service area have proceeded with the formation of the Mid-Valley Water Authority to promote its purposes. The geographic configuration of this authority as well as the participation percentages of the various member agencies were developed in substantial reliance upon the service area and allocation criteria used by the Bureau of Reclamation in its feasibility study. The Authority was organized to continue the search for a reliable water supply for the east side of the San Joaquin Valley.

The lands included within the Mid-Valley Water Authority are among the most severely overdrafted agricultural lands in the State. The Mid-Valley Canal feasibility investigation identified an estimated 1.5 million acre-feet annual groundwater overdraft.

The California State Department of Water Resources in Bulletin 118-80, identified eight basins as being subject to critical conditions of overdraft in the San Joaquin hydrologic study area. Seven of those basins, the Chowchilla, Madera, Kings, Kaweah, Tulare Lake, Tule and Kern County basins essentially make up the service area of the present Mid-Valley Water Authority. Those basins were identified by DWR as having a long-term annual overdraft of 1,339,000 acre-feet.

In identifying the needs within the Mid-Valley Canal service area, the U.S. Bureau of Reclamation concluded that the local surface supplies have been almost completely utilized and cannot realistically meet the demand. In addition, the report notes that overall basin irrigation efficiency is very high and conservation gains would likewise be of no consequence toward correcting the overdraft. The Mid-Valley feasibility report concluded in pertinent part as follows:

> "A replacement water supply for the Mid-Valley Canal general service area is urgently needed. The present annual groundwater overdraft of over 1 million acre-feet forecasts the abandonment of over 440,000 acres of highly productive irrigated agricultural lands within the foreseeable future unless a replacement supply can be imported."

Under the Coordinated Operations Agreement (COA) being developed between the U.S. Bureau of Reclamation and the California State Department of Water Resources, a remaining uncommitted CVP yield was identified in the amount of 1.1 million acre-feet per year. Additional CVP water is also anticipated to be available from the modified Trinity River operations and on an interim basis (interim water is defined as existing firm yield under contract but not as yet used).

The MVWA is further supporting the construction of the Auburn Dam project, and intends to become a cost sharing participant and a recipient of a portion of the project yield.

Thus, with an appropriate conveyance facility, the MVWA would be capable of importing nearly 1-million acre-feet of additional supplemental water supply to the MVWA service area.

PURPOSE

The Bureau of Reclamation and the MVWA entered into a "Letter of Intent for the Funding and Conduct of Studies to Resolve Groundwater Overdraft and Meet the Water Needs in the San Joaquin Valley" and an "Agreement Between the United States of America and Mid-Valley Water Authority Providing for the Funding of

Certain Studies Pertinent to the Provision of Supplemental Water Supplies for the San Joaquin Valley" in November 1983 for determining the most feasible method of importing additional surface water supplies needed to offset the groundwater overdraft within the MVWA service area. The MVWA is cost-sharing the studies by contributing funds and by providing in-kind services. The Bureau, State, DWR and the MVWA initially jointly studied the capability of all existing facilities for delivery of additional CVP water within the MVWA service area and currently are concluding the feasibility study that will identify the selected project alternative routing for the Mid-Valley Canal.

The San Joaquin Valley Conveyance Study will further evaluate necessary pumping plants, canal structures, consider the integration of off-stream water conservation storage reservoirs, and evaluate other facilities needed for delivery of supplemental water to resolve the groundwater overdraft and related problems in the service area, including drainage, erosion and sedimentation, flooding and fish and wildlife deterioration.

The authorizing legislation for the Mid-Valley Canal has been introduced and the House as HR3182 (Lehman, Coelho, Thomas and Pashayan) and in the Senate as S1898 (Wilson). The bills are identical and the Authority is urging the Congress to favorably act on the legislation during this session. However, should the Congress fail to authorize and include an appropriation for the Mid-Valley Canal Project this session, the orderly development of the project would be seriously impaired. Therefore, the Authority urges the Committee to allocate $500,000, if necessary from existing Bureau of Reclamation general investigation appropriations in the President's budget, for advance planning and preliminary engineering design for the selected project alternative of the on-going feasibility study that will be completed this fiscal year.

I appreciate the privilege of appearing before the Committee and respectively urge your support and ask that my statement be made a part of the hearing record.

TABLE 1

MEMBERSHIP COMPOSITION OF MID VALLEY WATER AUTHORITY

Member Agency	Participation %
Alpaugh Irrigation District	1.44
Alta Irrigation District	1.84
Atwell Island Water District	1.23
Chowchilla Water District	0.62
City of Corcoran	0.62
Clayton Water District	0.62
Consolidated Irrigation District	3.27
County of Fresno	7.15
Fresno Irrigation District	2.05
Gravelly Ford Water District	0.52
City of Hanford	1.44
James Irrigation District	0.92
Kaweah Delta Water Conservation District	7.15
Kern County Water Agency	7.15
County of Kings	4.09
Kings County Water District	7.15
Kings River Conservation District	7.15
Labranza Water District	1.23
Lakeside Irrigation Water District	1.84
Liberty Water District	1.23
Lower Tule River Irrigation District	4.09
Madera County Flood Control & Water Conservation Agency	7.15
Madera Irrigation District	3.27
Pixley Irrigation District	7.15
Raisin City Water District	7.15
Saucelito Irrigation District	1.44
Sierra Water District	2.25
County of Tulare	7.15
Tulare Irrigation District	1.64
	100.00

STATEMENT OF THE KERN COUNTY WATER AGENCY, CALIFORNIA

I am Fred L. Starrh, president of the board of directors of the Kern County Water Agency in Bakersfield, California. The Agency's interest today is Fiscal Year 1986-87 funding to continue the Corps of Engineers' Caliente Creek flood control feasibility study. The President's Budget proposes an allocation of $120,000. We seek to increase this amount to $200,000, consistent with the cost-sharing agreement that has been implemented between the Kern County Water Agency and the Corps of Engineers.

This agreement is the first in the nation to be implemented for feasibility studies. Completed in February, 1985, and implemented March 15 of this year, the agreement calls for equal contributions from the Corps and the Agency of $200,000 to meet total projected expenses of $400,000 annually over the three-year study period. Under the agreement, at least half, or $100,000, of the Agency's share must be in cash, and up to half of the sharemay be made in in-kind services.

The feasibility study is currently in its second year. Work completed during the current 85-86 fiscal year will provide for a draft report scheduled to be completed in June, 1987. The FY 86-87 funds we are seeking will be used to produce the final draft of the feasibility report, which is scheduled to be completed by February, 1988, and to begin construction design work.

The unified and strong support among local interests for this project is exemplary. We were among the first in the nation to sign a cost-sharing agreement for any kind of feasibility study, and, as I mentioned earlier, this agreement is the first in the nation to be actually implemented.

We deeply appreciate the support you and this subcommittee have given to the Caliente Creek project over the last few years. The Caliente flooding problem is serious, and local interests have committed time and money to achieve a solution as soon as possible so that damages such as those that were incurred during the historic floods of 1983 and 1978 will not have to be experienced again. Damages from both those floods together totaled more than $36 million.

We urge your continued support for the Caliente project and the cost-sharing agreement, and hope that you will support our request to allocate $200,000 in the FY 86-87 budget for the feasibility study. If funding for the study is reduced at this point as suggested in the President's Budget, the study will not be able to completed on schedule, and the total project costs will be increased for both the federal government and local interests.

STATEMENT OF THE OAKDALE IRRIGATION DISTRICT, CALIFORNIA

The Oakdale Irrigation District appreciates the efforts of you and your committee for having obtained an appropriation of $4,100,000 for fiscal year 1986. The second year of construction on the system's rehabilitation project was recently completed and is now more efficiently irrigating 2,360 acres of land through 34 miles of new pipeline serving 2,048 constituents.

The rehabilitation project of our 75-year-old system from open ditch laterals to pipeline will result in conservation of 50,000 acre feet of water annually when the project is completed; 50 percent of which is immediately effective through the work completed. The piped system will also increase our ability to control water and provide better water management. This project is consistent with the President's philosophy and policy on cost sharing as follows:

Federal Loan - $17,845,000
District Contribution - 4,244,000

Total Project Cost: $22,089,000

The President's budget for the Bureau of Reclamation's loan program indicates $4.1 million for the Oakdale Irrigation District in fiscal year 1987. We support this appropriation as being within our capabilities to administer. The schedule for appropriations, including our current estimates for future appropriations, is summarized as follows (in $ million):

FY 84 - 1.500
FY 85 - 6.200
FY 86 - 4.970
FY 87 - 4.100
FY 88 - 1.075

The SRPA program has enjoyed the support of Congress for over 25 years. The loans are repaid 100 percent, some with interest. The money is used for facilities that make possible the continued production of food and fiber, as well as the creation of permanent jobs.

Your assistance and continued support for the completion of our project is greatly appreciated.

STATEMENT OF SAN JOAQUIN COUNTY AND SAN JOAQUIN COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT, CALIFORNIA

My name is George L. Barber. I am Vice-Chairman of the Board of Supervisors of the County of San Joaquin, California. A resolution of the Board authorizing this presentation is attached.

In summary, the County of San Joaquin requests that the following appropriations be made to the Corps of Engineers and the Bureau of Reclamation for the fiscal year between October 1, 1986, and September 30, 1987, for projects of concern to the County:

Corps of Engineers - Construction	
New Melones Project	$ 1,900,000
Lower San Joaquin River Clearing and Snagging	$ 1,500,000
San Francisco Bay to Stockton Ship Channel Deepening	$ 5,000,000
Corps of Engineers - Investigations	
Sacramento-San Joaquin Delta Investigation	$ 250,000
Bureau of Reclamation - Construction	
Auburn-Folsom South Unit	$ 1,000,000
Bureau of Reclamation - Loan Program	
Oakdale Irrigation District Loan	$ 4,100,000
Bureau of Reclamation - Investigations	
Delta Support Studies	$ 1,008,000

DETAILED COMMENTS

Corps of Engineers - Construction

New Melones Project............................$1,900,000

The New Melones Dam, Reservoir, and Power Plant are complete for operational purposes and all State permits necessary to permit full, authorized operation are in the Bureau's hands. The project has provided tremendous flood control benefits during the spring of 1986. Water quality, fishery, and power benefits and irrigation benefits were also available in recent years. These benefits are assured for the future.

The President's budget provides $1,900,000 for completion of remaining facilities and requirements of the project. We believe that this project should be completed so that it can serve all its authorized purposes and can maximize its benefits.

Lower San Joaquin River Clearing and Snagging...$1,500,000

Much of the Lower San Joaquin River channel upstream of Mossdale has become choked with sediment and debris as a result of upstream erosion and past floods. It is essential to continue this channel clearing program on the river system so that it can carry its design flood flows without endangering adjacent properties. We support the funds included in the President's budget for this essential work.

San Francisco Bay to Stockton Ship Channel Deepening	$5,000,000

The President's budget includes $3,900,000 for deepening of the San Francisco to Stockton Ship Channel to 35 feet. We urge that the budgeted amount be increased to $5,000,000 so that the entire project, including channel realignment, can be completed in fiscal year 1986-87.

Corps of Engineers - Investigations

Sacramento-San Joaquin Delta Investigation	$ 250,000

This study is to determine how the levees within the Sacramento-San Joaquin Delta can be rehabilitated to assure stability and provide seepage control. These levees provide protection to many fertile acres of farm land and adjacent communities. They also provide waterways that are used extensively for boating and recreation. Some of the levees are essential in limiting the tidal effects which cause salt water intrusion into the Delta channels. It is essential that these studies be undertaken and we support the funds included in the President's budget for these studies.

Bureau of Reclamation - Construction

Auburn-Folsom South Unit	$1,000,000

The President's budget contains $1,000,000 for work in fiscal year 1986-87. Recent information made available regarding the cost of the construction of Auburn Dam is under review for the Federal-State Task Force. A specific recommendation regarding the construction of Auburn Dam should be available within the next few months and the Bureau of Reclamation will need to proceed with studies required to modify its design in accordance with this recommendation. Water supplies which can be made available by Auburn Dam and Reservoir are essential to the resolution of the minimum flow problems in the Lower American River and to provide water for use in the Folsom South Canal service area.

The most important program of the Auburn-South Unit is the Folsom South Canal, which now ends 10 miles north of the San Joaquin County line. San Joaquin County, through its Flood Control and Water Conservation District, completed a comprehensive groundwater management study of the portion of the County that would be served water from the canal. This study has provided the County with useful information on conjunctive use of groundwater in sustaining a presently developed agricultural area which is primarily in pasture, vineyard, row and orchard crops. The County is currently evaluating this information to accurately determine its needs of water from the Folsom South Canal.

The County believes that the Bureau should now be making studies toward eventual extension of the Canal into the County to deliver supplemental water. This information, together with environmental impact statements relating to the service area, will be required for support of contracts for the supplemental water.

Bureau of Reclamation - Loan Program

Oakdale Irrigation District Loan	$ 4,100,000

The Bureau and O.I.D. have executed a loan contract and construction is under way. The budgeted $4,100,000 in fiscal year 1986-87 will be used to continue construction of the system improvements. It is expected that when completed, the system will be far more efficient and will conserve much water now unavoidably lost.

Bureau of Reclamation - Investigations

Delta Support Studies..........................$1,008,000

A wide variety of analyses and studies are required in the Sacramento-San Joaquin Delta in connection with the existing and potential problems. Many of these programs involve cooperation with the State of California since both the State Water Project and the Federal Central Valley Project use the Delta as a means of conveying water across the Delta to their export pumping plants.

The State expends large sums in studying the effects of the cross-Delta flows on water quality in the Delta and on export waters and in studying the effects of Project operations on the fishery resources and Delta channels. The Bureau should have comparable funds with which to discharge its responsibilities toward the Delta.

We support the President's budget in the amount of $1,008,000 for these studies.

BEFORE THE BOARD OF SUPERVISORS OF THE SAN JOAQUIN COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT, STATE OF CALIFORNIA

R-86-347

RESOLUTION APPROVING STATEMENTS TO BE SUBMITTED TO SUBCOMMITTEES ON ENERGY AND WATER DEVELOPMENT OF HOUSE OF REPRESENTATIVE AND SENATE APPROPRIATIONS COMMITTEES

- - - - - - - - - - - - - - - - - -

WHEREAS, the Subcommittee on Energy and Water Development of the Committee on Appropriations of the United States House of Representatives and the Subcommittee on Energy and Water Development of the Committee on Appropriations of the United States Senate will each separately hold hearings on April 16, 1986, on the budgets of the U. S. Army Corps of Engineers and the Bureau of Reclamation; and

WHEREAS, numerous projects contained in those budgets are of benefit to San Joaquin County;

NOW, THEREFORE, BE IT RESOLVED that Supervisor George L. Barber is hereby authorized and directed to appear before the aforementioned congressional subcommittees in Washington, D. C., in support of the appropriations for pending flood control, navigation, and water supply projects which will be of benefit to San Joaquin County and to present the attached statements.

PASSED AND ADOPTED this 1st day of April, 1986, by the following vote of the Board of Supervisors, to wit:

AYES:	Supervisors Barber, Castles, Sousa, Wilhoit
NOES:	None
ABSENT:	Supervisor Costa

STATEMENT OF STOCKTON, CA

I am Councilmember Alfred B. Bonner of the City of Stockton, California, authorized by the Stockton City Council to make this statement before your honorable body today.

The City of Stockton supports the Corps of Engineers and Bureau of Reclamation surveys, flood control and reclamation projects in the following amounts:

1.	New Melones Project	$ 1,900,000
2.	Deepening of the Stockton Ship Channel to 35 feet and realigning part of the Channel	5,000,000
3.	Lower San Joaquin River Clearing and Snagging	1,500,000
4.	Sacramento-San Joaquin Delta Investigation	250,000
5.	Auburn-Folsom South	1,000,000
6.	Delta Support Studies	1,008,000

FLOOD CONTROL -- CORPS OF ENGINEERS

NEW MELONES PROJECT----------------------------------$ 1,900,000

The New Melones Dam, Reservoir and Power Plant are complete for operational purposes and necessary permits to operate have been secured. The project provided tremendous flood control benefits this spring.

The President's budget provides $1,900,000 for completion of remaining facilities and requirements of the project. This project should be completed so that it can serve all its authorized purposes and can maximize its benefits.

SAN FRANCISCO BAY TO STOCKTON SHIP CHANNEL DEEPENING--$5,000,000

The President's budget contains $3,900,000 for the San Francisco Bay to Stockton Ship Channel Deepening which will complete the dredging. The City supports $5,000,000 in order to finish the project.

LOWER SAN JOAQUIN RIVER CLEARING AND SNAGGING---------$1,500,000

Much of the Lower San Joaquin River channel upstream of Mossdale has become choked with sediment and debris as a result of upstream erosion and past floods. It is essential to continue this channel clearing program on the river system so it can carry its design flood flows without endangering adjacent properties. We support the funds included in the President's budget for this essential work.

SURVEY -- CORPS OF ENGINEERS

SAN JOAQUIN DELTA INVESTIGATION----------------------$ 250,000

The City Council supports the President's budget for this survey of the levees.

BUREAU OF RECLAMATION

AUBURN-FOLSOM SOUTH-----------------------------------$1,000,000

The President's budget contains $1,000,000 for work in fiscal year 1986/87. Recent information made available regarding the cost of the construction of Auburn Dam is under review for the Federal-State Task Force. A recommendation regarding the construction of Auburn Dam should be available within a few months and the Bureau of Reclamation will need to proceed with studies required to modify its design in accordance with this recommendation. Water supplies which can be made available by Auburn Dam and Reservoir are essential to the resolution of the minimum flow problems in the Lower American River and to provide water for use in the Folsom South Canal service area.

The most important program of the Auburn-South Unit is the Folsom South Canal, which now stops ten miles north of the San Joaquin County line. San Joaquin County, with all the water agencies in Eastern San Joaquin County, completed a comprehensive groundwater management study of the area that would be served water from the Canal. This study has provided the County with useful information on conjunctive use of groundwater in sustaining a presently developed agricultural area which is primarily in pasture, vineyard, row and orchard crops.

The Bureau should study the eventual extension of the Canal into the County to deliver supplemental water. This information, together with environmental impact statements relating to the service area, will be required for support of contracts for the supplemental water.

DELTA SUPPORT STUDIES---------------------------------$1,008,000

A wide variety of analyses and studies are required in the Sacramento-San Joaquin Delta to contend with existing and potential problems. Many of these programs involve cooperation with the State of California since both the State Water Project and the Federal Central Valley Project use the Delta as a means of conveying water across the Delta to their export pumping plants.

The State expends large sums in studying the effects of the cross-Delta flows on water quality in the Delta and on export waters and in studying the effects of Project operations on the fishery resources and Delta channels. The Bureau should have comparable funds to deal with its responsibilities toward the Delta. We support the President's budget of $1,008,000 for these studies.

Resolution No. 86-0188

STOCKTON CITY COUNCIL

WHEREAS, on April 16, 1986, appropriate committees of the Congress of the United States will conduct hearings to consider Federal Appropriations for flood control, reclamation, and navigational projects and surveys for fiscal year 1986-87; and

WHEREAS, several projects and surveys to be considered at said Congressional hearings will be of benefit to the City of Stockton and its environs; and

WHEREAS, the expeditious construction of said projects and completion of said surveys is required to protect the health, welfare and safety of the residents of this area; now therefore

BE IT RESOLVED BY THE COUNCIL OF THE CITY OF STOCKTON, AS FOLLOWS:

That the City of Stockton does hereby support the appropriation by the Congress of the United States of funds for fiscal year 1986-87 for the planning, continuation and completion of flood control, reclamation, and navigational projects and surveys; namely NEW MELONES PROJECT, SAN FRANCISCO BAY TO STOCKTON SHIP CHANNEL DEEPENING, LOWER SAN JOAQUIN RIVER CLEARING AND SNAGGING, SACRAMENTO-SAN JOAQUIN DELTA INVESTIGATION, AUBURN-FOLSOM SOUTH, AND THE DELTA SUPPORT STUDIES which affect the City of Stockton and its environs; be it

FURTHER RESOLVED, that the representative of the City of Stockton, Councilmember Alfred B. Bonner is authorized to appear before appropriate committees of the Congress of the United States on April 16, 1986 for the purpose of making presentations consistent with this resolution; be it

FURTHER RESOLVED, that the City Manager is hereby authorized and directed to send copies of this resolution to the Honorable Alan Cranston, the Honorable Peter Wilson, the Honorable Norman Shumway and the Honorable Richard Lehman.

PASSED, APPROVED and ADOPTED this 7th day of April, 1986.

/S/ BARBARA FASS

BARBARA FASS, Mayor
City of Stockton

ATTEST:

/S/ FRANCES HONG

FRANCES HONG, City Clerk
City of Stockton

I, Frances Hong, certify that this document is a true and correct copy of ________ No. ________ adopted by the City Council of the City of Stockton on ________ 19__ and on file in the office of the City Clerk of the City of Stockton.

Frances Hong
Date: ________ 19__ City Clerk of the City of Stockton
By ________
Deputy

STATEMENT OF THE SAN BERNARDINO COUNTY FLOOD CONTROL DISTRICT, CALIFORNIA

The Board of Supervisors of the San Bernardino County Flood Control District, State of California, is deeply appreciative of the Committee's past consideration and budgetary recommendations which have resulted in control of serious flood problems in our County. This year we are quite aware of the fiscal limitations faced by all levels of government throughout the nation and, therefore, are submitting only the following most critical projects for your consideration in the 1986-87 Budget:

1. Santa Ana River Main Stem - All River Plan	$3,500,000
2. Santa Ana River and Orange County Review Final Report	150,000

The work reflected in these projects is essential and urgent to both local and national interests. Additional information on each project is included with this report for your review as time permits.

We earnestly solicit your approval of these programs and their funding to provide for the most urgent flood control requirements of San Bernardino County.

SANTA ANA RIVER MAIN STEM

ALL RIVER PLAN INCLUDING UPPER SANTA ANA RIVER DAM

The Santa Ana River is capable of large peak storm flows that rival or exceed the peak flows of many of the nation's major perennial flowing rivers. If left in its existing state, it could cause an estimated $9.2 billion in damage and would jeopardize the lives of over 1.8 million people.

The All River Plan strongly supported by the three counties of Riverside, Orange and San Bernardino, in addition to provide flood protection for Orange County, serves a two-fold purpose. First, it would provide major flood protection for upstream portions of the river in San Bernardino and Riverside Counties. Secondly, it will reduce the large rights-of-way acquisition at Prado Dam that is needed to provide downstream flood protection for Orange County.

The $3.5 million in the President's Budget and recommended by the State of California Water Commission, is to continue detailed design activities for Prado Dam and downstream elements and initiate detailed designs of the Upper Santa Ana River Dam.

PROJECT AUTHORIZED:	Public Law 94-587, Section 109, 94th Congress, Second Session, Approved on October 22, 1976.
TOTAL PLANNING AND ENGINEERING FUNDS REQUIRED:	$17,300,000
PRIOR PLANNING AND ENGINEERING FUND:	$13,025,000
STATE OF CALIFORNIA WATER COMMISSION RECOMMENDATIONS Fiscal Year 1986-87:	$3,500,000
PRESIDENT'S BUDGET Fiscal Year 1986-87:	$3,500,000

REQUIRED ACTION: Approval of $3,500,000 by Appropriations Committees and Congress.

1. To continue detailed design activities for Prado Dam and downstream elements.
2. To initiate detailed design of the Upper Santa Ana River Dam.

SANTA ANA RIVER AND ORANGE COUNTY REVIEW REPORT

FINAL REPORT

On May 9, 1964, the House of Representative Committee on Public Works authorized this review report to study the Santa Ana River Basin and tributaries in the California Counties of San Bernardino, Riverside and Orange. This study includes numerous Santa Ana River tributaries in the three-county area. Since its initiation, various streams within this overall project have been studied in detail, as the urgency and need required.

This year because of the fiscal limitations faced by all levels of government throughout the nation, we are recommending deferral of studies on the other tributaries in our County in favor of funding the Del Rosa Channel. This facility presently serves as the primary drainage outlet for the rapidly growing City of San Bernardino and has caused frequent flood damage to the hurt of the City.

Funding of $50,000 is currently proposed in the President's budget. However, the California State Water Commission has recognised the urgent need and vitality of this project and supported $150,000 funding. We encourage your concurrence and recommendations.

SURVEY AUTHORIZED:	Review report authorized by Resolution of the House of Representative Committee on Public Works, adopted May 8, 1964.
TOTAL FUNDS REQUIRED:	$9,500,000 (1)
PRIOR SURVEY FUNDS APPROVED:	$7,777,000 (2)
STATE OF CALIFORNIA WATER COMMISSION RECOMMENDATIONS Fiscal Year 1986-87 Del Rosa Channel:	$150,000
PRESIDENT'S BUDGET Fiscal Year 1986-87:	$50,000
REQUIRED ACTION:	Approval of the Appropriations Committees and Congress in Fiscal Year 1986-87 of $150,000 to continue general investigation and technical studies for the Del Rosa Channel.

1. San Bernardino County survey portions include upstream elements, San Timoteo Creek and tributaries (San Timoteo Creek-Loma Linda, Redlands, Zanja, Wilson and Wildwood Creeks), Warm Creek and tributaries, San Sevaine Creek and tributaries, and Rialto Channel.

2. Includes $425,000 previously allotted to Bureau of Reclamation (Department of Water and Power Resources).

MINUTES OF THE BOARD OF SUPERVISORS
OF SAN BERNARDINO COUNTY, CALIFORNIA

On motion of Supervisor McElwain, duly seconded by Supervisor Riordan, and carried, the following resolution is adopted by the Board of Supervisors of the County of San Bernardino, State of California:

RESOLUTION NO. 86-84

WHEREAS, on March 7, 1986, the State Water Commission will adopt final recommendations for Fiscal Year 1986-87 funding for water and flood control projects; and

WHEREAS, these recommendations will be submitted to the Congressional Appropriations Committee; and

WHEREAS, there are several projects needed to solve serious flood control problems in San Bernardino County;

NOW, THEREFORE, BE IT RESOLVED that the San Bernardino County Board of Supervisors strongly supports and recommends the following projects:

PROJECT	PRESIDENT'S BUDGET	S.B. COUNTY RECOMMENDATION MAR. 3, 1986
U.S. ARMY CORPS OF ENGINEERS		
1. SANTA ANA RIVER MAIN STEM - "ALL RIVER PLAN" INCLUDING ALTERNATIVES ABOVE PRADO DAM General Investigation	$3,500,000	$3,500,000
2. SANTA ANA RIVER AND ORANGE COUNTY FINAL REPORT General Investigation		
DEL ROSA CHANNEL	$ 50,000	$150,000
BUREAU OF RECLAMATION		
1. DAY CREEK WATER CONSERVATION	$1,000,000	$1,000,000

PASSED AND ADOPTED by the Board of Supervisors of the County of San Bernardino, State of California, by the following votes:

AYES: Joyner, McElwain, Riordan, Hammock
NOES: None
ABSENT: Skropos

STATE OF CALIFORNIA }
COUNTY OF SAN BERNARDINO } ss.

I, MARTHA M. SEKERAK, Clerk of the Board of Supervisors of the County of San Bernardino, State of California, hereby certify the foregoing to be a full, true and correct copy of the record of the action taken by said Board of Supervisors, by vote of the members present, as the same appears in the Official Minutes of said Board at its meeting of March 3, 1986.

MARTHA M. SEKERAK
Clerk of the Board of Supervisors

By Julie Worley
Deputy

MINUTES OF THE BOARD OF SUPERVISORS OF SAN BERNARDINO COUNTY, CALIFORNIA

On motion of Supervisor McElwain, duly seconded by Supervisor Riordan, and carried, the following resolution is adopted by the Board of Supervisors of the County of San Bernardino, State of California.

RESOLUTION NO. 86-85

WHEREAS, the Boards of Supervisors of Orange, Riverside, and San Bernardino Counties have for several years expressed unified support for the "All River" alternative for the Santa Ana River Main Stem Project in accordance with the recommendations of the Chief of Engineers of the United States Army Corps of Engineers; and

WHEREAS, the Boards of Supervisors of all three counties have previously adopted resolutions endorsing specific language for congressional bills authorizing construction of the Santa Ana River Main Stem Project; and

WHEREAS, the United States Army Corps of Engineers, Los Angeles District, published a final report dated December 15, 1985, Supplement to Phase 1 General Design Memorandum on the Santa Ana River Main Stem including Santiago Creek entitled Upper Santa Ana River Flood Storage Alternative Study; and

WHEREAS, the Board of Supervisors of San Bernardino County, by Resolution No. 85-577, supported the recommendations of the District Engineer of the Los Angeles District for implementation of Alternative 2, Upper Santa Ana River Dam, appurtenances, and related recreation improvements as in alternative to the Mentone Dam; and

WHEREAS, the Board of Supervisors of Orange and Riverside Counties have indicated their support for Alternative 2, Upper Santa Ana River Dam as an alternative to the Mentone Dam;

NOW, THEREFORE, BE IT RESOLVED that this Board of Supervisors of the County of San Bernardino, also acting as the governing board of the San Bernardino County Flood Control District, in regular session hereby endorses and supports the recommended budget of the President of the United States, and requests the Congress to appropriate in FY 1986/87 the amount of $3.5 million dollars ($3,500,000) and further requests Congress to direct the Corps of Engineers to continue detailed design activities in FY 1987 on all elements of the Santa Ana River flood control project leading to completion of the Phase II General Design Memorandum.

BE IT FURTHER RESOLVED that this Board requests Congress to direct the Corps of Engineers to begin detailed design activities on Alternative 2, Upper Santa Ana River Dam following approval of this element by the Corps of Engineers Board of Rivers and Harbors.

BE IT FURTHER RESOLVED that this resolution be transmitted to the Honorable Robert A. Roe, Chairman of the House Subcommittee on Water Resources, the Honorable James Abdnor, Chairman of the Senate Subcommittee on Water Resources, to San Bernardino County's representatives in Congress, the Honorable Jerry Lewis, the Honorable George E. Brown, Jr., the Honorable Senator Alan Cranston, and the Honorable Senator Pete Wilson.

PASSED AND ADOPTED by the Board of Supervisors of the County of San Bernardino, State of California by the following votes:

AYES: Joyner, McElwain, Riordan, Hammock
NOES: None
ABSENT: Skropos

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STATE OF CALIFORNIA } ss.
COUNTY OF SAN BERNARDINO }

I, MARTHA M. SEKERAK, Clerk of the Board of Supervisors of the County of San Bernardino, State of California, hereby certify the foregoing to be a full, true and correct copy of the record of the action taken by said Board of Supervisors, by vote of the members present, as the same appears in the Official Minutes of said Board at its meeting of March 3, 1986.

STATEMENT OF ORANGE COUNTY, CA

I am Carl Nelson, Director of Public Works for the County of Orange, where more than 2 million residents live along the coastal plain of the Santa Ana River.

It is well recognized that the Santa Ana River poses the greatest flood hazard of any project in the western United States. The Corps of Engineers has been studying the problem for many years under Congressional authorization of 1964. The Phase I General Design Memorandum was completed in 1980, and now refinement of the Upper Santa Ana River element is being reviewed by the Board of Engineers for Rivers and Harbors. The Chief of Engineers has reported the project's construction would have a favorable benefit cost ratio. The project is acceptable to all three sponsoring local agencies, i.e., Riverside, San Bernardino and Orange Counties.

The Santa Ana River Project is included in both the House and Senate Water Resource Omnibus Bills. The Orange County Board of Supervisors has endorsed the local cost sharing proposals.

The President's budget for Fiscal Year 1987 includes $3,500,000 for continued study of the Santa Ana River Project. This is sufficient to keep the project on schedule for completion of the Phase II General Design Memorandum by mid-1988, provided the appropriations language specifically permits continued engineering for the Upper Santa Ana River Dam as an integral unit of the overall project.

Previous Congressional support of the Santa Ana River Main Stem Project is very much appreciated. The County of Orange strongly supports the recommended budget of the President of the United States for FY 1986-87 as shown by attached resolution of the Orange County Board of Supervisors adopted April 8, 1986 and requesting appropriations of $3,500,000 for the Santa Ana River Main Stem Project and $550,000 for Interim Report III (West Orange County Flood Channels).

Thank you for the opportunity to appear in support of the Santa Ana River Main Stem Project.

RESOLUTION OF THE BOARD OF SUPERVISORS OF
ORANGE COUNTY, CALIFORNIA

April 8, 1986

On motion of Supervisor Clark, duly seconded and carried, the following Resolution was adopted:

WHEREAS, the Boards of Supervisors of Orange, Riverside, and San Bernardino Counties have for several years expressed unified support for the "All River" alternative for the Santa Ana River Main Stem Project in accordance with the recommendations of the Chief of Engineers of the United States Army Corps of Engineers; and

WHEREAS, the Boards of Supervisors of all three counties have previously adopted resolutions endorsing specific language for congressional bills authorizing construction of the Santa Ana River Main Stem Project; and

WHEREAS, the United States Army Corps of Engineers, Los Angeles District, published a final report dated December 15, 1985, Supplement to Phase I General Design Memorandum on the Santa Ana River Main Stem including Santiago Creek entitled Upper Santa Ana River Flood Storage Alternative Study; and

WHEREAS, the Board of Supervisors of Orange County, by Resolution dated December 10, 1985 supported the recommendations of the District Engineer of the Los Angeles District for implementation of Alternative 2, Upper Santa Ana River Dam, appurtenances, and related recreation improvements as an alternative to the Mentone Dam; and

WHEREAS, the U. S. Senate and the House of Representatives have passed separate bills (S.1567 and H.R.6) both of which include authorization of the Santa Ana River "All River Plan"; and which are referred to Conference Committee for reconciliation before submittal to the President.

NOW, THEREFORE, BE IT RESOLVED that this Board of Supervisors of the County of Orange, also acting as the governing board of the Orange County Flood Control District, in regular session hereby endorses and supports the recommended budget of the President of the United States, and requests the Congress to appropriate in FY 1986-87 the amount of $3.5 million dollars ($3,500,000) for continued detailed design activities in FY 1987 on all elements of the Santa Ana River flood control project leading to completion of the Phase II General Design Memorandum, and further requests the Congress to appropriate $550,000 for continued engineering study for Interim Report III, West Orange County portions of the Santa Ana River Basin Project

BE IT FURTHER RESOLVED that this Board does also hereby urge the House and Senate conferees to promptly reconcile H.R. 6 and S. 1567, and adopt a federal Water Resources Omnibus Bill suitable for execution by the President in order to provide badly needed flood protection for residents of the Santa Ana River Flood Plain at the earliest possible time.

BE IT FURTHER RESOLVED that this resolution be transmitted to the Honorable Thomas Bevill, Chairman of the House Appropriations Subcommittee on Water Resources, the Honorable Mark Hatfield, Chairman of the Senate Appropriations Subcommittee on Water Resources, to Orange County's delegation in the House of Representatives, and to Senators Alan Cranston and Pete Wilson.

AYES: SUPERVISORS RALPH B. CLARK, HARRIETT M. WIEDER, ROGER R. STANTON, BRUCE NESTANDE, AND THOMAS F. RILEY

NOES: SUPERVISORS NONE

ABSENT: SUPERVISORS NONE

STATE OF CALIFORNIA)
) ss.
COUNTY OF ORANGE)

I, LINDA D. ROBERTS, Clerk of the Board of Supervisors of Orange County, California, hereby certify that the above and foregoing Resolution was duly and regularly adopted by the said Board at a regular meeting thereof held on the 8th day of April, 1986, and passed by a unanimous vote of said Board.

IN WITNESS WHEREOF, I have hereunto set my hand and seal this 8th day of April, 1986.

Linda D. Roberts
LINDA D. ROBERTS
Clerk of the Board of Supervisors
of Orange County, California

STATEMENT OF THE WESTLANDS WATER DISTRICT

The Administration's proposed Fiscal Year 1987 program for the United States Bureau of Reclamation includes $12,172,000 for the San Luis Unit of the Central Valley Project, California.

I respectfully urge approval of that request.

Appropriation of that amount will assure continuation of work on the San Luis drainage studies, which have been underway for many years. The studies are vital elements in a coordinated program involving the United States, the State of California Resources Agency and local interests. All have joined forces in an ongoing effort to resolve the critical agricultural drainage problems of our area.

We appreciate your leadership in the matter of selenium contamination in the San Joaquin Valley and elsewhere. Your Committee addressed that problem in the Conference Committee Report of Public Law No. 99-141 by conferring authority on the Secretary to make $3.7 million in selenium research loans. While there has been delay in implementation under that authorization, we feel that your assistance will result in early activation of that important research program.

In closing, may I express appreciation for your dedicated service to the wise management of our nation's water resources.

STATEMENT OF RIVERSIDE COUNTY BOARD OF SUPERVISORS, CALIFORNIA

Mr. Chairman, members of this committee, I am Walt Abraham, Chairman, Board of Supervisors, Riverside County Flood Control and Water Conservation District. I first want to speak to you on the Lake Elsinore Management Project under the Bureau of Reclamation Loan program. As you are aware from past testimony by our District, Lake Elsinore has had a history of floods and droughts, the more recent problems being of floods. Last year the Bureau of Reclamation approved a small project loan for improvements at Lake Elsinore including flood control, water development, Lake stabilization and recreation for Lake Elsinore. Your committee approved an appropriation of $500,000 last year to start engineering studies for which we are very appreciative.

In December 1985, the Army Corps of Engineers completed a feasibility study for flood control along the outflow channel from Lake Elsinore and just one month ago our Board entered into a cost sharing agreement with the Corps of Engineers to do the feasibility - design of the outflow channel. Our District is paying $180,000 of our funds for our share in this small project study.

It is vital that the Corps of Engineers design studies and the Lake Management design studies proceed concurrently so that the two projects get properly interfaced. In addition, the City of Lake Elsinore is moving ahead with a redevelopment project around the lake front and the outflow channel. What we have going here is a unique program involving the participation and cooperation of the Riverside County Flood Control and Water Conservation District, the Lake Elsinore Municipal Water District, the City of Lake Elsinore, the Bureau of Reclamation and the Army Corps of Engineers.

The President has included one million dollars in the Fiscal Year 1987 budget for the Lake Elsinore Management Project and I urge your committee to approve that amount.

I also want to speak briefly on the Santa Ana River project. After many years of cooperation effort and study with the Corps of Engineers and Orange, Riverside and San Bernardino Counties, we believe the Santa Ana River project may soon be authorized by Congress. The President has included 3.5 million dollars in the Fiscal Year 1987 budget for the Santa Ana River project and we urge your committee to approve that amount to continue the engineering design of this very critical project.

Thank you so much for your consideration.

SUMMARY RECOMMENDATIONS

LAKE ELSINORE MANAGEMENT PROJECT	
(Bureau of Reclamation Loan Program)	$ 1,000.000
SANTA ANA RIVER - MAIN STEM	
Phase II Studies	$ 3,500,000
SANTA ANA RIVER AND ORANGE COUNTY	
Continue Surveys	$ 600,000

LAKE ELSINORE MANAGEMENT PROJECT
(Bureau of Reclamation Loan Program)

The Elsinore Valley Municipal Water District, the County of Riverside and the State of California, Department of Parks and Recreation, cooperated in the preparation of a study and report of the problems in stabilizing Lake Elsinore through flood control and water development improvements and enhancing the recreational opportunities of the lake under the provisions of the Small Reclamation Projects Act of 1956 (Public Law 84-984) as amended. The results of that study and report were that flood control improvements, water supply development, modification to operational size of the lake and recreational improvements were feasible.

The Elsinore Valley Municipal Water District, acting as the local sponsor, submitted the report entitled, Proposed Lake Elsinore Management Project, to the Bureau of Reclamation as an application for a loan and grant of $26,000,000 for this 39.5 million dollar project. The Secretary of Interior approved the loan and grant application in March 1985.

The Corps of Engineers completed a reconnaissance study in December 1985 under the provisions of Section 205 of the Flood Control Act of 1948 determining that certain flood control improvements along the lake outflow channel were feasible. The Riverside County Flood Control and Water Conservation District has entered into a project design study cost sharing agreement with the Corps of Engineers to complete the feasibility - design of the outflow channel in advance preparation for construction of the project as a Small Flood Control Project.

The Lake Management Plan which includes water development, lake stabilization and recreation will be closely interfaced with the Corps' flood control plan. It is vital that the design of these two projects go forward concurrently.

The President has included $1,000,000 in the FY 1987 budget for the Bureau of Reclamation for continued engineering design of the Lake Elsinore Management Plan. We support the President's budget recommendation and urge the Committee to approve $1,000,000 for the Lake Elsinore Management Project loan in FY 1987.

SANTA ANA RIVER - MAIN STEM

The report of Santa Ana River - Main Stem, including Santiago Creek, California, Phase I, has been completed and the Chief of Engineers submitted that report to the Secretary of the Army. His report recommends construction of the All River Plan which consists of a dam near Mentone, California; enlargement of the existing Prado Dam near Corona, California; channel improvements along the river in Orange County; improvement of the Oak Street drain channel in Corona, California; and improvement of Santiago Creek in Orange County. The All River Plan was developed over a period of several years of study by the Corps of Engineers and agreed to in concept by the three affected counties, i.e., Orange, Riverside, and San Bernardino, and the State of California. Subsequent to completing the Phase I report on the Santa Ana River, All River Plan, certain interests in San Bernardino County expressed concerns over the Mentone Dam. The Boards of Supervisors of Orange, Riverside, and San Bernardino Counties, after meetings and discussions with the Corps of Engineers, agreed on language authorizing the project.

In December 1985 the Los Angeles District of the Corps of Engineers, under authority of Section 1304 of the 1984 Supplemental Appropriations Act, submitted a final report of Flood Storage Alternatives to the Mentone Dam. In that report the Corps recommends construction of a dam across the Santa Ana River upstream of the Mentone Dam site at a cost of 200 million dollars less than the Mentone Dam, with only slightly reduced total project benefits. The three counties have approved this alternate damsite.

The House has passed HR 6, an authorization bill containing the Santa Ana River project, and the Senate has passed S1567 containing the Santa Ana River project. Both bills have language to include the alternative to Mentone Dam, upon approval of the plan by the Chief of Engineers and Secretary of Army. We believe the Santa Ana River - Main Stem Project will be authorized by Congress this year.

It is vital that engineering design on this project continue so that construction can start in a timely manner after authorization. The President has included 3.5 million dollars in the FY 1987 budget. We support the President's budget recommendation and urge the Committee to approve $3,500,000 for the Santa Ana River - Main Stem Project for FY 1987.

SANTA ANA RIVER AND ORANGE COUNTY

The Corps of Engineers has been studying certain specific flooding problems along streams tributary to the Santa Ana River and in Orange County since the mid 1970's. For the past three years they have concentrated efforts on a study of the flooding problems around Lake Elsinore in Riverside County. This study has resulted in the Corps and the Riverside County Flood Control and Water Conservation District proceeding with a Small Flood Control Project design at Lake Elsinore under provisions of Section 205 of the Flood Control Act of 1948.

There are also continuing studies that must be completed on other streams in Orange County (Interim Report No. 3) and tributary streams to the Santa Ana River in Riverside and San Bernardino Counties (Interim Report No. 2). Included in Interim Report No. 2 are studies of the feasibility of extending the levee along the San Jacinto River approximately four miles farther downstream. Flooding occurred along this reach of the river in

1978, 1979, 1980 and 1983 which required flood fight effort to keep the stream within the existing banks. The flood of February 1980 breached the local levees and caused extensive flooding damages to valuable agricultural land, closed major roads and highways, destroyed one major county road and caused considerable economic losses in the Hemet-San Jacinto Valley in Riverside County. Riverside County, including this area, is the fastest growing area in the United States. Future floods will cause even greater economic loss.

The President's budget includes $600,000 for continuation and completion of these and other elements of this ongoing study. We urge the Committee to approve $600,000 for the Santa Ana River and Orange County studies for FY 1987.

STATEMENT OF THE SANTA ANA RIVER FLOOD PROTECTION AGENCY

Summary of Request:

Appropriate $3,500,000 for the fiscal 1987 Continued Planning and Engineering on the Santa Ana River Main Stem Project.

I am George Osborne, Executive Director of the Santa Ana River Flood Protection Agency consisting of 22 public bodies and representing more than 2,000,000 persons in Orange County, California.

The Santa Ana River, the largest stream in Southern California, originates in the San Bernardino Mountains at elevations exceeding 10,000 feet. From the mountains the river's course lies across fertile alluvial plains to an entry into the Pacific Ocean about 70 miles from its origin. The first exploration of the area by Europeans was in 1769 and was followed by the establishment of missions and ranches on land grants from the King of Spain. Then followed the independence of Mexico, the loss of California to the United States and the admission of California as a state of the United States in 1850.

During these more than 300 years of history and for millenia before, the Santa Ana River pursued its course from the mountains to the sea sometimes as a vast, raging torrent but for much of the time as a mild, pleasant stream. History of floods is known for less than 200 years. The largest flood of record was that of 1862 and studies indicate that this event far exceeded the theoretical 100-year flood. Damage was light due to the almost undeveloped nature of the region.

In the latter part of the 19th century development in the Santa Ana River drainage area began in earnest and has continued to this time in what are now the counties of Orange, Riverside and San Bernardino.

One of the periodic Santa Ana River floods, that of March 1938, took 45 lives in Orange County. This and the attendant property damage resulted in the design and construction by the Corps of Engineers of a flood control dam on the Santa Ana River at the town of Prado for the protection of Orange County. This dam was completed in record time by 1941.

The dam has functioned well up to this time and has protected Orange County from subsequent floods, some approximating the severity of the 1938 flood.

The Corps of Engineers, however, in 1970 revealed that the project had been designed to control a flood smaller than predicted by modern hydrology aided by the use of computers. This deficiency has been confirmed by research into the history of the 1862 flood. These studies reveal that the 1862 flood was nearly twice the size as that for which the Prado project had been planned and constructed.

A remedial plan, known as the Santa Ana River Main Stem Project, has been recommended by the Corps of Engineers, the Board of Engineers for Rivers and Harbors, the Chief of Engineers and the Secretary of the Army. This project is included for authorization in H.R. 3670 and S. 1567, both of which have been passed by their respective bodies and now await reconciliation of differences in conference committee.

Currently the Corps of Engineers is pursuing continued planning and engineering and the preparation of a Phase II General Design Memorandum for the main stem project with yearly appropriations for that purpose.

The proposed budget has $3,500,000 for continuing this work in fiscal 1987. This amount will enable the Corps of Engineers to complete a draft Phase II GDM on schedule in the summer of 1988 with final approval by the Chief of Engineers in August 1989.

One of the major features of the main stem project as officially presented to the Congress is a new dam at Mentone. A restudy by the Corps of Engineers recommends substituting an Upper Santa Ana River Dam for that proposed at Mentone at a savings of $200,000,000. That study is now before the Board of Engineers for Rivers and Harbors and is expected to reach the Congress within a few months. Under these circumstances we believe that provision should be made in the appropriation permitting its use also in planning and engineering for the Upper Santa Ana River Dam as the main stem project can best be planned as a unit.

The Corps of Engineers estimates that a flood the size of that of 1862 would produce in excess of $12 billion in damages. While no one can predict when such a repetition will occur, it can confidently be said that it is only a matter of time. For this reason we support the appropriation of $3,500,000 for the Santa Ana River Main Stem Project for fiscal 1987.

SAN LUIS REY RIVER, CA—OPPOSITION

Chairman HATFIELD. The subcommittee has also received several statements in opposition to the San Luis Rey River project which, without objection, I will make part of the record at this point.

[The statements follow:]

STATEMENT OF ALEX DEUTSCH, BOARD CHAIRMAN, DEUTSCH MUNICIPAL AIRPORT, OCEANSIDE, CA

The Testimony I presented on March 28th, 1985, still supports all the arguements why there should not be any funding by Congress for thé San Luis Rey River project. In addition, the following has taken place to strengthen the above reasons for no funding:

1. Property owners, Messers. Abell and Abondonado have constructed an additional 600 ft. of rip-rap levee on their property.
2. DRED (Deutsch Real Estate Development) have been reinforcing their revetment and are raising it from a 50-year to a 100-year flood control. Since starting the work 3 weeks ago, at least 1500 ft. has been completed to date on the North side, out of a total of 3400 ft. When finished, the contractor will move to the South side of the River and do a like amount. Besides this permits are in process which will create another 6200 ft of levees and revetments.

What we need is cooperation from the City of Oceanside and Corps of Engineers and this job will be done by the private property owners with very little cost to the taxpayers.

On June 12th, 1986, the Deutsch interest and other property owners are making a presentation to the Corps of Engineers, at which time we will invite members of Congress, Oceanside City officials and hopefully a representative of the Governor of California. Said presentation will show how a double levée 100-year flood control for the 7.2 miles of the San Luis Rey River can be accomplished for under $5 million.

Just in case you do not want to read last years presentation, we still state that the City of Oceanside asking for $1,400,000 is unnecessary since that particular area is already finished for 100-year flood control.

Subject:

$1,400,000 request in the budget for Congressionally Approved San Luis Rey River project sponsored by the City of Oceanside and designed by the Corps of Engineers.

Purpose 1) To advise this Committee not to approve this request since the money spent would be totally wasted.

2) To plead with this Committee to send the San Luis Rey River project back to the Public Works Committee of the House for re-examination and evaluation.

Please Note:

CAP = Congressionally Authorized Plan designed by the Corps of Engineers as a double levee channel requiring 420 acres - and approved by Congress in 1970, estimated cost $9,720,000.

SLP = Single Levee Plan designed by the Corps of Engineers, after 1978 similar to the Congressionally Authorized Plan except 3½ miles of levee is removed on the north side, and now requires 935 or 515 more acres than the original Corps plan, estimated cost $45,000,000.

This request for $1,400,000 is $500,000 higher than last years $900,000 request. The money is supposed to cover the cost of improving the revetments presently exisiting between Interstate 5 and the ocean - the present construction is beyond 100 year flood control requirement.

I would like to quote from the Corps authorizing document of April 3, 1970 presented to Congress by Colonel Norman E. Pehrson, CE, District Engineer, and accepted by John A. B. Dillard, Brigadier General, U.S. Army Division Engineer:

Page 33,"65. San Luis Rey River channel improvement (recommended plan). -- The recommended channel improvement, which would be approximately 7.2 miles long, would include (a) an earth-bottom trapezoidal channel about 5.7 miles long from Murray Road to about 1 mile upstream from U.S. Highway No. 101; (b) about 1.5 miles of channel grading, which in general would be limited to the removal of spoil banks, from 1 mile upstream of U.S. Highway No. 101, through the "narrows" section, to the ocean; and (c) about 800 feet of stone-revetted levee on the left (south) bank from the railroad to the ocean."

Please note the 800 foot levee for the south side requested by Colonel Pehrson was built by the property owners in 1978 and is in place. Colonel Pehrson also recommends to leave the north side levee alone because it is satisfactory.

Page 34,"68. Downstream from the Santa Fe railroad, a stone-revetted levee to contain the standard project flood would be constructed on the south bank to protect about 7.5 acres of potentially high-value land. The existing stone levee on the right bank protecting the small-craft harbor, which would control a flow of 60,000 cubic feet per second, would not be modified although it would be overtopped by a standard project flood. Raising the right levee would require complete reconstruction which is not warranted by the relatively low average annual damages in the harbor area that could result from floods with peaks larger that 60,000 cubic feet per second. Studies also showed that the construction of the left-bank levee would not adversely affect the existing right-bank levee to an appreciable degree. The existing lagoon within this reach would not be disturbed."

The two above quotations taken from the Corps publication to Congress clearly shows no need for any more work in this area.

The channel between Interstate 5 and the ocean is over 550 feet wide at the narrowest point, much wider than required for a 100 year flood - add all this together other than clearing the river, there is not any need for wasting taxpayers money - the job has been finished.

We have been claiming for a long time that the cost of construction of the San Luis Rey River channel protection should not total more than $5,000,000. The Corps now tells us that the estimate of the total cost, including land will be approximately $45,000,000. I would like to explain how this reduction can come about by giving you some samples of savings. Let me explain first some of the circumstances:

1. The Corps is estimating a project flood control (250 - 500 years), in the State of California, San Diego County, 100-year flood control is sufficient. The Corps made an estimate and said they could save $2,000,000 in construction costs using 100-year flood control but they could not meet the Benefit Cost Ratio. In our opinion they cannot meet the BCR in either case. It seems ridiculous that the Corps has to go to a higher price in order to pass the BCR.

2. The excellent Congressionally Authorized Plan by the Corps required 420 acres. The ridiculous Single Levee Plan currently pushed by the Corps requires over 920 acres with 3½ miles less shore protection. The extra 500 acres outside of the CAP river area, using the price the City just paid for ten acres, at $80,000 per acre, would require an expenditure of over $40,000,000 for the extra land.

3. Most of the property owners have agreed to "no charge" for their river land under our plan.

4. The City of Oceanside requires the building adjacent to the River area to be at the 100-year flood height, or higher. To accomplish this a large amount of dirt is required and the property owners would be glad to clean out the River, remove any dirt that is surplus to the River and put it on their own property, which they need badly. The Corps in their Single Levee Plan are proposing to dig out this dirt and haul it to the ocean. This saving is several million dollars. There are many more savings, but let me list the positive approach.

1. Over 16,000 ft. of rip rap levee are already constructed. Not all of it is 100-year flood height but all the property owners have agreed to bring their levees to the 100-year flood height. There is another 5,500 feet on the South shore that the Corps, after a 17 month delay, just this month granted a permit. This approximate 4 miles of levee deducted from the Congressionally Authorized Plan 11.4 miles leaves something less that 8 miles of levee to be built. We have a firm quotation of 100-year levee of $70 per running foot. Using the figure of $400,000 per mile, or $3,200,000 for the levee work leaving a balance of $1,800,000 for other works that we want to do. Suffice to say, we can do the job for under $5,000,000. We need permission from the Corps and cooperation with the City. Naturally, the property owners that build their own levees want the right to use their land.

The quest for flood protection in the San Luis Rey River area has been going on since 1938. In 1970, Congress passed a bill which became identified as the Congressionally Authorized Plan. This plan covering 420 acres and 7.2 miles of river channel with 5.7 miles of rip rap levees on both sides of the river from Murray Road to 1½ miles from the ocean

- the estimated cost including land acquisition to be $9,720,000. The present estimate of the new Corps Single Levee Design is $45,000,000 - with over 3½ miles less protection on the North side of the river.

In 1968 the Corps, under the influence of the environmentalist agencies, started a new radical design by eliminating 3½ miles of levee on the North side of the lower end of what was the Congressionally Authorized Plan. The purpose was to please the environmentalists who were hoping to keep this particular unprotected area "open space" with no development. The original Corps design of the Congressionally Authorized Plan was to cover approximately 420 acres at a cost including land, estimated at $9,720,000. The present estimate of the new Corps Single Levee Design is over 920 acres with 3½ miles less protection on the North side of the river. The Corps estimated cost for this project is now $45,000,000.

The Corps soon recognized that to protect the south leveee they had to keep the river away from the South shore so they designed a series of groins perpendicular to the shore 190 feet long then added another 90 feet of vegetation, total 250 feet, moved the river to the north for another 400 feet and allowed another 150 feet of land (average) for the north bank area. This additional 400 feet by 3½ miles or approximately 170 acres - value at least $13,600,000. The City just made a deal with Home Capital for land near the River at $80,000 per acre.

After the 1980 flood, in order to protect our plant, we decided we could not wait for the Corps and constructed our own protection. We built what is about a 50-year flood protection levee on the south side of the river. Since the river was now confined by the south levee, during a flood the north bank began to wash away, and to protect our property we then built a revetment on the north side - our channel is 400 feet wide at the narrowest point, we kept the channel clean and are comfortable with our protection on both sides of the channel. When we resolve the differences between the City, Corps of Engineers and the property owners, we will build our revetments to the county 100-year maximum flood requirement.

Since we started building levees in 1980, other property owners have elected to do the same in the 5.7 miles that the Corps planned in 1970 - but, instead of a project flood control the property owners are planning to eventually complete a 100-year flood control, which is the maximum required by San Diego County. Following is a list of already built levees or revetments.

North Side			South Side		
Deutsch	3000 ft.	50- year	Deutsch	4000 ft.	50-year
Lee	2500 ft.	100-year	Siegal	2800 ft.	50-year
Oak Ind.	2000 ft.	100-year	Fredericks	2000 ft.	100-year

In the winter of 1982, most of Southern California had water damage. The San Luis Rey had one of its largest flows in years but because the pilot channel was relatively clean and many property owners had built their own levees, there was not any damage. This month the Corp finally granted a permit to build 5,500 feet of protection between Siegal and

Fredericks, when this will be built the danger of any flood up to 50 years doing any serious damage to Oceanside will have been eliminated from Douglas Drive to the ocean.

In August, 1984, at our request, Mr. Sanford Wall, Deutsch Co. general counsel, and Mr. David Phifer, a cost consultant, met with Mr. William Cheadle, Chief of the Corps real estate division, and other members of the Corps to discuss, compare and substantiate the Corps values for land acquisition. Mr. Wall and Mr. Phifer were informed that the values were obtained from an independent appraisal report and that such report was exempt from the Freedom of Information Act and not for public viewing. A Freedom of Information Act request was made and denied. We are still unaware of the nature and method of the Corps valuation. We believe the Corps valuation placed on the extra 500 acres is far below real values. We question the integrity of the Corps approval.

There are many reasons why this project should go back to the Public Works Committees of the House and Senate.

1. The engineering is very bad.
2. The reasons for the design are now eliminated.
3. By using a Single Levee Design, the North river bank is not confined so that the river, during high flow can meander. As the river meanders, it will turn back against the single levee and undermine the rock and erode through the Levee so the Corps has proposed groins to keep the river from impinging on the river in a destructive manner. If there were a levee of 400 feet away from the South shore, like there is upstream, there would not be any need for extra land acquisitions, groin expense, etc. - saving of millions.
4. The City of Oceanside will not work with the property owners as long as there is an approved project, hoping for the $45,000,000 channel.
5. During the original examination back in the 1960's, research showed that the best plan would be a reservoir, the cost at that time did not seem to warrant a reservoir. The situation today is different - this should be re-examined.

Please send this project back to the respective House and Senate Commitees.

STATEMENT OF J.F. CASSAN, OCEANSIDE, CA

I have been a resident of the city of Oceanside since 1929. I moved my business to its present location in 1962.

I have built and maintained the road which includes a bridge 420 feet long to cross the river at no expense to anyone but myself. This provides access to my property as well as to the Prince of Peace Abbey and neighboring property.

The river bed in this area is approximately a thousand feet wide outside of my property, which is all above the 100 year flood plan. The original flood control plan, approved by the Corps of Engineers and Congress, would have taken 420 acres to build, which would have required excavating a small portion of my property. The Single Levee Plan calls for excavating almost all of my property and would force the Corps to move the river about 250 feet to the north. This ruins my life's work of building my business. I have never heard of a river being moved to please some greedy environmentalists.

I was on the Citizens Committee to study flood control for the valley. After many meetings and much testimony, we voted for the authorized plan. One month later the Corps of Engineers called another meeting and informed us that this was unacceptable to some people. We would have to consider some other way to use up more land. They showed us a plan with a levee on only one side with groins built where the river now runs. Some quick math showed that there were some 3,000 feet of these groins which would contain enough rock to build approximately 6,000 feet of the levee. A revetment would be a more practical solution, so that the land would be above flood danger.

When the smoke all cleared, the committee had a tied vote. A previous member, who was a city council person and since has been defeated for re-election, called the city attorney and received the opinion that she could still vote. She broke the tie for the single levee.

The land the city will have to buy, some 800 plus acres, shows on the plan to cost $6,000,000. I have an offer for my 34 acres at $100,000 per acre or some $3,400,000. I would like to see some figures to show how the land can be purchased. I think the figures they are using are from the original study from some years ago.

My fellow property owners have already built some of the original plan at their own expense, and since our meeting on March 20, 1985, an additional 600 feet of levee has been added. If the property owners were allowed, they would eventually finish it on their own without any cost to the taxpayers. The Corps and the city have spent many millions talking and have not accomplished anything, while the property owners stand ready and willing.

Every plan, when finished, calls for a 400 feet wide channel which must be maintained clear and free of debris. This last winter I contracted to the city to clean part of this channel which was on city property and with my fellow property owners on their property. I was stopped by the Corps of Engineers. The city finally obtained permission from the Corps to clear, at the widest, 150 feet not 400 feet. Another part controlled by the Coastal Commission to clear 25 feet, not 400 feet.

When on the Citizens Committee, every time I asked why we did not clean the channel now at a small expense to help prevent flooding, I was told, "If you do, you will wreck the cost ratio of the project".

What assurance do we have even if we build the Single Levee Plan that the Fish and Game, Fish and Wildlife, Coastal Committee, and other interested parties will let it be maintained?

There are nine separate businesses including mine located on my property, all involved in the auto recycling business. I am enclosing an attachment which lists these businesses.

The environmentalists reason for the Single Levee Plan was to keep the north side as "open space". Since the design was adopted by the Corps, my neighbor Deutsch and his neighbor Lee, have built revetments on the north side for about 1 1/2 miles in the middle of the Single Levee area. Lee has built a 3 lane bridge into the middle of the open space where he has started construction of 700 residences. Deutsch has plans for about 50 acres of industrial along the river and about 1,000 residences behind the industrial. The bridge has opened the north side causing the Single Levee Plan to lose its purpose even for the environmentalists -- why waste all that money? Camp Pendleton is behind the Deutsch and Lee properties with plenty of "open space". This eliminates the need for more in this area.

Thank you for your time and consideration.

Inderrieden Road Service
Employs 8 family heads.

Bryans Auto Repair
Employs 2 family heads.
John Bryans

Peasley Auto Colision
Employs 2 family heads.
Jerry Peasley

Don Erbe Co.
Employs 8 family heads.
Donald L. Erbe

All Foreign
Employs 7 family heads.

Cassan Auto Wrecking
Employs 6 family heads.
Stephen P. Erbe

County Auto Pool
Employs 10 family heads

Gallants Truck Salvage.
Employs 11 family heads

Everyone realizes these are important and necessary to keep the junk cars from our streets. If these need to be relocated, everybody will say, "Locate these in some other place, not my neighborhood".

ADDITIONAL STATEMENTS SUBMITTED FOR INCLUSION IN THE RECORD

Chairman HATFIELD. Finally, I shall indicate that the hearing record will remain open until the end of April to receive any additional statements which may be submitted following the conclusion of these public witness hearings.

Those statements will be incorporated at this point.

[The statements follow:]

STATEMENT OF THE PUERTO RICO FEDERAL AFFAIRS ADMINISTRATION

I am José A. Ortiz-Daliot, Director of the Puerto Rico Federal Affairs Administration, otherwise known as the Office of the Governor of Puerto Rico in Washington, D.C.

I address this committee to bring your attention to several water projects and studies which are of vital importance to the safety and economic well being of the Puerto Rican people. As of 1984 Puerto Rico had an estimated population of 3,270,000 residing on an island nearly 3,435 square miles in area. This amounts to a population density of 952 persons per square mile. It is not hard to perceive the importance to us of every meter of usable land. Unfortunately, Puerto Ricans still remain the poorest among American families. This combination of lack of land and poverty has forced many people to live in floodable lands. After the October 1985 rainstorm disaster, during which 3000 families lost their homes, it was estimated that an additional 7,000 familes lived in highly floodable land. Throughout the years, the Corps of Engineers has provided much needed assistance to address the water problems of the island. This assistance has been vital to the safety and economic well being of our people. I now call your attention to the funding requirements of the various projects and studies undertaken or awaiting funding in Puerto Rico.

PROJECTS:

Portuguez and Bucana Project: This project was authorized by the Flood Control Act of December 30, 1970. It consists of two high dams with reservoirs, the Portuguez and Cerrillo Dams, and channel improvements. The project will provide flood protection and a dependable water supply of 33.8 million gallons per day to the city of Ponce, the largest city on our southern coast. The Corps of Engineers has requested $31,000,000 for this project in its fiscal year 1987 budget.

It has been brought to our attention that the Portuguez Dam is being considered as a new start project requiring a higher interest rate on the payback. As this dam was one part of three part project, we would like the subcommittee to consider this matter and recommeded that the Portuguez Dam be applied the same interest rate as the Cerrillos Dam.

Ponce Harbor: This project was authorized by resolution of the Senate and House Public Works Committee in 1976 under the authority of Section 201 of the Flood Control Act of 1965, PL 89-298, as amended. The authorization provides for a 600 foot wide by 36 foot deep channel from the Caribbean Sea to the Ponce Harbor, a 400 foot-wide by 36 foot deep channel into the harbor and a 36 foot deep, irregular shaped basin with a turning diameter of 950 feet. It will provide for the expansion and development of the commercial and industrial potential of this southern port. It will also stimulate the much needed economic development of Puerto Rico's southern region. The cost/benefit ratio has been determined at 7.0:1 and the Administration has requested $2,000,000 for new construction start. The Mayor of Ponce, under whose jurisdiction the harbor falls, has expressed the Municipality's willingness to proceed with the project, under the Administration's proposed cost sharing formula. As of October 1984 the estimated project cost was $10.38 million. Under the cost sharing formula the federal share would be $6.39 million and the local share would be $3.99 million.

San Juan Harbor. This project has been authorized in both Senate and House water resources authorization bills, S 1567 and H.R. 6, respectively, which are expected to go to conference soon. We consider this project to be of considerable importance for Puerto Rico, for the nation and the Caribbean region. The San Juan Harbor is the most important American-flag port in the Caribbean. It plays a central role in the Administration's Caribbean Basin Initiative (CBI), serving as the principal trade link between the U.S. and CBI countries. It also plays an important role in the national defense as it is used by our naval forces. This harbor is also critical to our economy, as 80% of all cargo to and from the island moves through it.

This project will be extensive as it will require deepening the Bar Channel and shifting its alignment 350 feet to the west. The project calls for modifications to the Anegada Channel, the Army Terminal Channel, the Puerto Nuevo Channel, the San Antonio Channel, the Cruise Ship Basin, the Sabana Approach and Anchorage Area E. The cost/benefit ratio has been estimated at 5.8:1 and is expected to cost $83,000,000, the Federal share of which would be $63,000,000. The remaining cost would be borne by the Commonwealth of Puerto Rico. We respectfully request that this subcommittee recommend appropriations for this project at the $63,000,000 level.

Flood Control Studies:

Rio Grande de Arecibo: This project was authorized by resolution of the Committee on Public Works and Transportation, adopted on September 23, 1982. The Rio Arecibo basin has experienced numerous floods in recent years, the last of which occurred in October, 1985. These floods have caused severe disruption of transportation and socio-economic activity, as well as quantifiable damage. The floods caused by the Rio Arecibo and its tributaries have severely affected the populations of not only Arecibo, the largest city in the region, but also the municipalities of Utuado, Jayuya, and Adjuntas. In all, approximately 154,800 persons have been affected. The Administration has requested $100,000 to study ways in which future disasters in this region can be averted.

Rio Grande de Loiza: This on-going study was authorized under Section 204 of the Flood Control Act of 1970. The area of Carolina and Rio Grande, on the northern coast of Puerto Rico, has been severely impacted by flooding in the Rio Grande de Loiza Watershed affecting some 17,300 families residing in the basin. Over 5,000 acres of agricultural land, as well as several industrial and commercial establishments, and public facilities are subject to flooding. The Loiza Basin supplies 58% of the water requirements of the San Juan Metropolitan Area (SJMA). Present soil erosion problems have reduced the capacity of the Loiza Reservoir by 28% in the last twenty years. The Army Corps of Engineers is examining several alternatives for solving flood protection and water supply problems with the existing Carraizo Dam. The plan that appears to maximize the net economic benefits is a combination of two multi-purpose reservoirs on the Rio Grande de Loiza and Rio Valenciano, leaves and limited channel improvements along the river and its tributaries. The Administration has requested $200,000 to continue the survey.

Rio Guanajibo: This study was initiated under the authority of Section 204 of the Flood Control Act of 1970 as amended, as part of the Puerto Rico Cooperative Studies Program. The Rio Guanajibo basin, in the southwestern part of the island, includes portions of the municipalities of Mayaguez, Cabo Rojo, Hormigueros, San German, Maricao, and Sabana Grande. Discharges and overflows from the Rio Guanajibo represent a serious threat to life and property in these and adjacent municipalities. The study undertaken by the Corps of Engineers is evaluating flood damage protection measures, as well as addressing water supply considerations. The sum of $255,000 is needed to continue this study and as such has been requested by the Administration.

Rio Puerto Nuevo: This study was authorized under Section 204 of the Flood Control Act of 1970. The Rio Puerto Nuevo and its tributaries flow through the highly urbanized center of the San Juan Metropolitan Area where 5,700 families are affected by floods. The floodable area includes the financial center of the island, major commercial, industrial, warehousing and recreational facilities and portions of the upland facilities of the San Juan Harbor. The main nucleus of the Federal and local government facilities on the island, including the General Post Office, the National Guard Armory, the Police Department Headquaters and the Coliseum, are also affected. On September 1985, the Board of Engineers for Rivers and Harbors recommended the report for implementation. Because of the urgent nature of this flood control project, we request that the subcommittee recommend funding of $1,500,000 for continued planning and engineering.

Rio Nigua: We have been advised that this project may be undertaken by the Army Corps of Engineers under Section 204 of the River and Harbor and Flood Control Act of 1970 (P.L. 91-611). The Rio Nigua basin is located in the south-central portion of the island and drains a 52.6 square mile area. Most of the watershed lies within the municipality of Salinas with a population of 26,000. The river's flood plain encompasses Salinas and several adjacent settlements, as well as part of Camp Santiago, a Puerto Rico National Guard training facility. Flooding affects about 200 acres of developed land and over 800 families, periodically resulting in damages in excess of $2 million. The proposed study would determine the scope, extent and severity of the flooding. We respectfully request that the subcommitte recommend appropriations of the $70,000 needed for this study.

I wish to thank this Subcommittee for giving me the opportunity to present these much needed projects for your consideration. The projects I have mentioned, if carried out, will have a positive impact on the safety and economic well being of the people of Puerto Rico.

STATEMENT OF THE WESTERN STATES WATER COUNCIL

I am writing to convey two policy positions recently adopted by the Western States Water Council. The first position expresses opposition to the policy of the U.S. Corps of Engineers that would require the City of Orofino, Idaho to pay for the hydropower revenue foregone at Dworshak Dam in order for the city to use water from the reservoir for municipal purposes. The Council position expresses concern over the potentially far reaching implications of this policy due to the fact that Corps or Bureau of Reclamation dam and hydro facilities are located in river basins throughout the western United States and any consumptive use of water upstream from these dams necessarily requires incidental reduction of hydropower generation capacity. The resolution urges the Administration to renounce and reverse any similar federal fees pertaining to its facilities. It further requests that federal agencies, including the Corps of Engineers, recognize the requirement that withdrawals from federal reservoirs must be authorized under state water right law.

The second position adopted by the Council encourages negotiated settlements of Indian water right disputes based on the "belief that in many cases ...such settlements offer the best possible solution to a critical problem that affects all of the western states." The Council resolution "calls upon ...Congress, the President, and the Secretary of the Interior to promote and encourage negotiated settlements of Indian water right disputes and to assist in the implementation of fair and equitable settlements in a spirit that generously recognizes that the federal government has unique responsibilities and commitments to Indian tribes, as well as important obligations to holders of vested water rights under state law."

As an organization of representatives appointed by the Governors of fifteen western states, we urge your careful consideration of the enclosed positions. If you have any questions regarding them, or if we can be of any assistance to you in your important responsibilities, please let us know.

RESOLUTION
of the
WESTERN STATES WATER COUNCIL
regarding
U.S. Army Corps of Engineers Water Fee Policy
April 11, 1986

WHEREAS, the U.S. Army Corps of Engineers has agreed to allow the City of Orofino, Idaho, to receive water from Dworshak Dam only if the city pays for use of the project based on the "loss of power" production resulting from its water consumption; and

WHEREAS, the Corps does not own or control the water which it intends to charge the city for using, for the Corps has neither a right to the water based on state law nor a "federal reserved right" under the reserved rights doctrine; and

WHEREAS, the Corps' action is contrary to a longstanding and uninterrupted federal policy of deference to state water right administration systems; and

WHEREAS, the Corps or Bureau of Reclamation dam and hydropower facilities are located in river basins throughout the western United States and use of water upstream from these dams necessarily requires incidental reduction of hydropower generation capacity; and

WHEREAS, condoning the practice of using water including charges therefor, which is not covered by a recognized water right, would seriously disrupt the allocation and management of water and the orderly administration of state water laws; and

WHEREAS, charges by federal agencies for the use of federal reservoirs must be based only upon the benefits conferred and the services rendered by virtue of the federal government having invested in the construction of such reservoirs;

NOW THEREFORE BE IT RESOLVED, the Western States Water Council opposes and urges the Corps of Engineers to abandon its policy of using "loss of power" as a basis of charging the City of Orofino for obtaining a water supply from Dworshak Dam; and

BE IT FURTHER RESOLVED that the Western States Water Council and its member states urge the Administration to renounce and reverse any similar federal fees pertaining to its facilities; and

BE IT FURTHER RESOLVED that the federal agencies, including the Corps of Engineers, recognize the requirement that withdrawals from federal reservoirs must be authorized under state water rights law.

RESOLUTION
of the
WESTERN STATES WATER COUNCIL
supporting
Negotiated Settlement of Indian Water Rights Disputes

April 11, 1986

WHEREAS, Indian tribes have mostly unquantified and unused reserved water rights which, if put to beneficial use, could displace existing uses of water and significantly impair investments and local and regional economies; and

WHEREAS, the public interest and sound public policy require the resolution of Indian water rights disputes in a manner that is least disruptive to existing uses of water; and

WHEREAS, the United States has developed many major water projects that compete for use of waters claimed by Indians and is therefore responsible to both Indians and non-Indians to assist in resolving conflicts between them for such waters; and

WHEREAS, comprehensive judicial decrees are often necessary to quantify and prioritize water rights but protracted litigation is often complex, expensive, and time-consuming; and

WHEREAS, it is highly desirable to develop procedures which achieve quantifications fairly, efficiently, and with the least cost; and

WHEREAS, negotiated quantification of claims is such a process; and

WHEREAS, the advantages of negotiated settlements include: (i) the ability to be flexible and to tailor solutions to the unique circumstances of each situation; (ii) the ability to promote conservation and sound water management practices; and (iii) the ability to establish the basis for cooperative partnerships between Indian and non-Indian communities to replace the adversarial and often hostile relationships that currently exist; and

WHEREAS, negotiation of certain claims is more likely to be successful if coupled with "physical solutions," primarily development of federal water projects and improved water delivery and application techniques; and

WHEREAS, several water right settlement bills have passed or are pending before the Congress; and

WHEREAS, Indian tribes and non-Indian interests are currently involved in water rights settlement negotiations in several western states which, if successfully concluded, will probably require the enactment of federal legislation and in some cases the appropriation of funds;

NOW THEREFORE BE IT RESOLVED, that the Western States Water Council endorses the policy of encouraging negotiated settlements of Indian water rights disputes based on its belief that in many cases such negotiated settlements offer the best possible solution to a critical problem that affects all of the Western States; and

BE IT FURTHER RESOLVED, that the Western States Water Council urges the United States, as the trustee of Indians and Indian tribes, to assert strong leadership in the promotion of quantification of claims in the context of federally financed solutions; and

BE IT FURTHER RESOLVED, that the Western States Water Council calls upon the Congress, the President, and the Secretary of the Interior to promote and encourage negotiated settlements of Indian water rights disputes and to assist in the implementation of fair and equitable settlements in a spirit that generously recognizes that the federal government has unique responsibilities and commitments to Indian tribes, as well as important obligations to holders of vested water rights under state law.

STATEMENT OF THE MINNESOTA-WISCONSIN BOUNDARY AREA COMMISSION

Summary of Request

Project: Upper Mississippi River System Environmental Management Program, IL, IA, MN, MO, WI. (UMRS-EMP)

The Corps of Engineers has prepared a General Plan for the above program, dated January 1986, which outlines the ten-year action plan for multi-purpose river management on the Upper Mississippi River System. The Administration request for appropriation of $1.0 million in FY 1987 was developed prior to completion of the General Plan.

The correct level of investment in FY 1987 for the UMRS-EMP to attain the goals of the balanced river program mandated by Congress is $3.95 million. This is justified and recommended in the General Plan. It is also consistent with the approach recommended in the Upper Mississippi River System Master Plan and with the strategy adopted by the Senate and House Appropriations Committees in P. L. 99-88 with respect to "Locks and Dam 26, Illinois and Missouri (Second Lock), including environmental management along the Upper Mississippi River Basin."

It is requested that the Committee on Appropriations update the FY 1987 appropriation for the UMRS-EMP from the preliminary level of $1.0 million to the recommended action level of the Corps' General Plan of $3.95 million.

Rationale for Request

The Minnesota-Wisconsin Boundary Area Commission is in its 20th year of analyzing and coordinating public policies and programs on the Upper Mississippi and St. Croix Rivers for its two sponsor States. Our ten citizen Commissioners, appointed by the governors, have deliberated and participated for at least the last 13 years in the ambitious and complex process of reformulating a multi-purpose plan for the Upper Mississippi River System. Our recommendations on the FY 1987 Budget of the Corps of Engineers for Upper Mississippi River improvements are reflective of the strong and knowledgeable interest and concern of the general public in our region for the wise use, development and protection of this great National River.

Over the years, we have been most grateful for the interest, wisdom and support of the Congress in reordering the Federal priorities and balancing the national objectives on the Upper Mississippi. A major initiative was taken by this Senate subcommittee in 1983 when it adopted important report language offered by Senator Robert Kasten, Jr., requiring balanced investment and management actions on the Upper Mississippi River System relative to Locks and Dam 26 second lock and environmental programs on the river. This statement of principles governing the federal actions involved was ultimately incorporated into the FY 1985 Second Supplemental Appropriations Bill (P. L. 99-88) and is now the guiding force behind the on-going river improvement program under that Act.

The measures outlined in the Corps' General Plan for the Upper Mississippi River System Environmental Management Program (UMRS-EMP), are patterned after the Congressionally-mandated Comprehensive Master Plan for the Management of the Upper Mississippi River System (commonly know as the UMRS Master Plan). In formulating this new General Plan, which has the approvel of the Chief of Engineers, the Corps' North Central Division cooperated fully with the five basin States and the Department of the Interior. This is more than just a Corps project; it is a joint venture in which the States will be cost-sharing on many elements and Interior will be the lead agency on others, as envisioned and understood by this subcommittee in setting the policy of balanced river development and protection.

The timing of the subcommittee's decision on the level of funding for the next action level on the Upper Mississippi is critical. The process leading to construction of the second lock at Lock and Dam 26 at Alton, Illinois, is in motion. The appropriation request of $2.0 million in general funds for advance work on that project is reasonable, in and of itself, but the recommended $1.0 million for the environmental measures in FY 1987 is woefully inadequate. Now that the General Plan is available justifying a $3.95 million appropriation for FY 1987, it is only reasonable to maintain the continuity of the years of pilot projects, studies and negotiations that brought about the settlement of the hard-fought disputes over balanced river management on the Upper Mississippi.

Public expectations and hopes are very high on this program now. The process for resolution of the former impasse over Lock and Dam 26 has worked. In keeping with that, we respectfully urge the subcommittee to recommend an appropriation of $3.95 million for the UMRS-EMP for FY 1987. If, for some reason, it is the decision of the subcommittee not to do so, we implore you to act in concert with the established principle of "equal fiscal footing" on the second lock and environmental projects cited in P. L. 99-88 and maintain the proper balance on both sides over the ten-year life of this program. Thank you.

STATEMENT OF THE WISCONSIN STATE DEPARTMENT OF NATURAL RESOURCES

I am writing to request your support for appropriation of $3.95 million for the Upper Mississippi River System Environmental Management Program (UMRS-EMP) in the Energy and Water Development Appropriations bill. As Governor Earl's designee for implementation of the EMP in Wisconsin, I hope that this request will receive your favorable consideration.

The State of Wisconsin was an active participant in the development of the "Comprehensive Master Plan for the Management of the Upper Mississippi River System". That Master Plan was submitted to Congress in 1982. It marked an historic effort by the involved states and federal agencies to present recommendations consistent with the two Congressional mandates for the Upper Mississippi River System: a national wildlife refuge and a commercial navigation project.

The fruits of those years of effort are now before the Congress in what has come to be known as the Environmental Management Program for the Upper Mississippi River System (UMRS-EMP). The State of Wisconsin has actively supported enactment of the authorizing language for the EMP contained in S. 1567, passed by the Senate March 26, 1986, and H.R. 6, passed by the House November 13, 1985.

The President's budget recommends an FY 1987 appropriation of $1 million for the EMP. However, the "General Plan" prepared by the Corps of Engineers in cooperation with the states and the U.S. Fish and Wildlife Service as the implementation document for the EMP, justifies $3.95 million as the appropriate level of effort for FY 1987. The State of Wisconsin strongly supports the $3.95 million appropriation recommended by the General Plan as the level of funding necessary to actually get the significant components of the EMP underway. Regrettably, funding at the $1 million level will simply not provide sufficient support to enable us to get started.

We are not indifferent to the difficulties of dealing with the federal deficit. Yet the EMP represents the most significant water project considered for the State of Wisconsin in many years. It is essential that this 10 year program receive sufficient funds in the early years to enable it to achieve its important objectives.

Thank you for your consideration of this request.

STATEMENT OF THE UPPER MISSISSIPPI FLOOD CONTROL ASSOCIATION

SUMMARY AUTHORIZED STUDIES

	SURVEYS AND STUDIES	BUDGETED FY 87	REQUESTS	REMARKS
1.	South Quincy Drainage & Levee District, IL (F.C.)	$1,000,000 (c)	$1,000,000	See Discussion
2.	Green Bay Levee & Drainage District No. 2, Iowa	0	$ 150,000	To Initiate C.P.& E. See Discussion
3.	Muscatine Island Levee & Drainage District and Muscatine Louisa Co. Drainage District No. 13, Iowa	0	$ 150,000	To Initiate & Complete C.P. & E. See Discussion

The Upper Mississippi Flood Control Association is honored to again be granted the priviledge of presenting oral and written testimony before your Honorable Committee relative to FY 1987 Water Resources Projects within the confines of our membership. This is the thirty-third (33) consecutive year we have been so honored.

For the record, and as stated many times, our Association extends from Guttenberg, Iowa to Hamburg Bay, Illinois, some 350 miles along both sides of the Mississippi River and embraces that portion of the River flood plain in the tri-state area of Missouri, Illinois and Iowa.

With your permission, Mr. Chairman, I would like to proceed by requesting that our complete statement be placed in the record of these hearings. In the interest of time, I would like to orally summarize portions of our statement.

In presenting this testimony, our Association is keenly aware of the restraints placed upon the Army's Civil Works Program and the objectives of avoiding larger Federal budgetary deficits and the problem of living within the "Balanced Budget and Deficit Control Act, Public Law 99-177".

We are confining our testimony to authorized studies within our area and a brief status report on each project.

DISCUSSION OF FY 87 BUDGET REQUESTS

IN ORDER OF SEQUENCE

1. The "Final Feasibility Study for Flood Damage Reduction, South Quincy Drainage and Levee District, Illinois", has been completed and approved by all Federal and State Governmental Agencies and is included in the President's Budget for FY 87 in the amount of $1,000,000 to initiate construction.

   We respectfully urge your Honorable Committee to support retention of these funds.

The South Quincy Drainage & Levee Drainage District has agreed to the cost sharing provisions and is willing and stands ready to carry out the provisions of its executed "Memorandum of Understanding" with the State of Illinois, dated October 24, 1984 and its companion "Letter of Intent" filed with the Corps of Engineers, October 21, 1984.

The project cost is estimated as follows:

Federal Costs at 75% = $9,670,000
Non-Federal Costs at 25% = $3,230,000
Total Project Costs =$12,900,000

The State of Illinois continues to assure the South Quincy Drainage and Levee District that it is prepared to meet its part of the Sponsor's share as set forth in the executed "Memorandum of Understanding".

It is hoped that this project may continue on schedule and that funds will be made available in FY 87.

2. The Green Bay Levee and Drainage District No. 2, Iowa, Flood Control Project is dormant due to lack of Federal funding.

As stated last year, after running the gauntlet of approximately nine years of study, dredging demonstration projects, inter-State and Federal Agreements, a C.O.E. design study or Survey Report based upon a 200 year flood frequency protection was completed. The Board of Engineers of Rivers and Harbors during review recommended that the protection be increased to a 500 year flood frequency design.

The administration found that a 500 year design was not appropriate for Agriculture areas and questioned the proposed protection to the large Fertilizer Plant within the District. The Office of Management and Budget rendered an opinion that the Fertilizer Plant constitutes an industrial point source, which must comply with Federal Water Pollution Control laws, laws which require actual or probable industrial polluters to control pollutants at their own expense.

The Fertilizer Plant is strictly for the purpose of manufacturing agricultural fertilizer, nitrogen and phosphate and has its own protective dikes with zero discharge. The plant has evaporation pools of approximately 300 acres which evaporate all of the plant effluent. It could well be feasible for the plant to transport its fertilizer components and gypsum waste out of the flood plain.

It is our understanding that in the Corps of Engineers Cost-Benefit analysis, benefits were not taken for probable damages of chemical spills into the River due to a levee failure.

The Drainage District, has no serious objection to reverting back to the original design and cost basis of a 200 year frequency flood protection project, but agrees with the analysis of the Board of Engineers for Rivers and Harbors that a 500 year design is cost effective.

Our Association now understands the Green Bay Project is included in Senate Bill S1567 as recently passed and is included in House Bill HR6 as passed last fall. Both Bills have been referred to the joint Conference Committee for study.

In light of the tremendous time, cost, and study that has gone into this project, may we suggest that the Congress take a second look and re-open the study at this time.

Our Association respectfully requests that $150,000 be made available in FY 87 to initiate Continuing Planning and Engineering.

3. The Muscatine Island Levee and Drainage District and Muscatine Louisa County Drainage and Levee District No. 13, Iowa, is included in House Bill (HR6) as passed last fall, but is not included in Senate Bill (S1567).

   Here again, many years of planning and negotiation have gone into this project in an attempt to bring the project to the stage of authorization and appropriation. The Corps of Engineers has expressed a capability of $150,000 for FY 87 to initiate and complete Continuing Planning and Engineering. The sponsor has expressed a willingness to participate in construction costs up to 35%.

   We respectfully request that your Honorable Committee give serious consideration for funding the continuing study to the full capability of the Corps of Engineers to carry out the work. It would seem cost effective to complete the planning.

For the first time in many years the President's Budget includes a commitment for new starts on some Water Resources projects. We receive this as good news in the hopes that it indicates that the Administration believes that legislation can be enacted and carried out within the budget restraints imposed. We are hopeful that our requests may be funded within these restraints.

Please note that our requests for non-budgeted funds are on two of the three projects found in need of modification, in response to a resolution adopted December 11, 1969 by the U. S. House of Representatives, Committee on Public Works. The Committee requested the Board of Engineers for Rivers and Harbors to review the reports on the "Mississippi Coon Rapids Dam to the Ohio River Projects" and make recommendations.

May we again call to your attention our Association's views and concerns over some of the pending and current legislation or policies involving Water Resources Projects.

As reported, the past two years, if cost sharing is inevitable, and we can understand the pressures and desires of the Administration and Congress, a flexible, non-rigid approach is suggested. A case by case determination would seem reasonable.

Our Association continues to have serious reservations over the justification of a change in flood control policy over the Upper Mississippi River involving the Navigation system at this time, for the simple reason that the Navigation system including the Locks and Dams, levees, and appurtenances are all a part of an integral system closely tied to human lives, recreation, the environment, and the economic vitality of the entire region. The projects under study are merely upgrading the system.

We believe flood control on major rivers is a Federal responsibility and should be evaluated, designed and constructed on a regional basis having an overall objective, not on a project by project basis.

May we be forgiven for again repeating our concern that Congress may become over zealous in establishing "USER FEES" on Navigation projects and "Cost-Sharing" on Water Resources Projects. USER FEES on the Upper Mississippi River System will bear most heavily on Agriculture since by far the vast majority of River transport is agriculturally related.

Lower cost water transportation is beneficial to all.

Thanks for the courtesy extended in allowing our Association to present this testimony.

STATEMENT OF THE UPPER MISSISSIPPI RIVER BASIN ASSOCIATION

The Upper Mississippi River Basin Association, established by the states of Illinois, Iowa, Minnesota, Missouri, and Wisconsin, serves its member states' needs for dialogue and cooperative action on water resources issues of common concern. The Association's predecessor Commission was the author of the Congressionally authorized "Comprehensive Master Plan for the Management of the Upper Mississippi River System" which, when submitted to Congress in 1982, set in motion what has come to be known as the Environmental Management Program for the Upper Mississippi River System (UMRS-EMP). The Association now serves as the regional forum for the implementation of that program.

The Upper Mississippi River Basin Association supports the inclusion of funds for initial year implementation of the UMRS Environmental Management Program in the FY 1987 Energy and Water Resources Development Appropriations bill. As a long-standing advocate of this program, the Association urges the House Appropriations Committee to provide, at a minimum, funding of $1 million as recommended in the President's budget. The UMRS Environmental Management Program enjoys widespread support in this region. The five states of Illinois, Iowa, Minnesota, Missouri, and Wisconsin, both individually and collectively working through the Association, have devoted significant effort for the past four years to laying the necessary groundwork for the eventual implementation of this unique program. Most recently, the states worked in close cooperation with the Corps of Engineers and the U.S. Fish and Wildlife Service to prepare the "General Plan" which serves as the implementation document for the EMP. Funding in FY 1987 is critical to the continuing viability of this program.

The UMRS Environmental Management Program is currently being pursued under the authority of the FY 1985 Supplemental Appropriations Act, P.L. 99-88. In addition, authorizing provisions are contained in both H.R. 6 passed by the House November 13, 1985 and S. 1567 passed by the Senate March 26, 1986. While under the provisions of P.L. 99-88 construction may proceed after May 15 even in the absence of authorizing legislation, the Association is hopeful that Congress will act swiftly on major water resource development legislation. Enactment of authorizing legislation would signal a clear and significant federal commitment to the enhancement and development of both economic and environmental resource values of the Upper Mississippi River.

The UMRS Environmental Management Program contains five primary components:

- habitat enhancement and rehabilitation projects
- recreation projects
- long-term resource monitoring and computerized inventory and analysis
- recreation economics study
- traffic monitoring

Over 95 percent of the funding authorized in H.R. 6 and S. 1567 would be directed toward the first three program elements which constitute the bulk of the work effort.

The projects and programs embodied in the UMRS-EMP are designed to combat the on-going environmental degradation of the Upper Mississippi River System. The habitat rehabilitation projects will at various sites throughout the system employ a variety of structural and management approaches to rejuvenate and protect critical backwater areas that are being threatened or in some cases already lost as a result of both natural and human-induced causes. The recreation projects will provide a diversity of opportunities for river-based recreational experiences. And the long-term resource monitoring program in conjunction with a computerized inventory and analysis system will provide both federal and state resource managers with an enhanced understanding of the complex interdependencies of the system and will greatly facilitate wise future management decisions.

The Upper Mississippi River System historically has had two Congressional mandates. As a nationally significant ecosystem it has been designated as a national wildlife refuge. As a nationally significant commercial transportation system it is managed as a commercial navigation project. The viability of this system requires a commitment to maintain and enhance all aspects. Congress has wisely maintained a balanced resource management approach in the pending authorizing legislation by providing for the construction of a second lock at Lock and Dam 26 and simultaneously authorizing major environmental and recreation programs for the Upper Mississippi River System. Furthermore, the Conference Committee report on P.L. 99-88 articulates Congressional intent that "initial planning and design of the navigation and environmental improvements are to be undertaken simultaneously on equal fiscal footing, to the extent practicable and engineeringly feasible." The Association does not suggest that this language reflects a strict dollar for dollar obligation. However, it certainly reflects a sense of balanced effort and reaffirms a commitment to both programs in the budgetary process.

The member states of the Association recognize the challenge of controlling federal expenditures. It is important, however, for the federal government to back its commitment to authorized projects with the financial means to implement them. The states have already indicated their willingness and ability to share the costs of these projects. The Governors, or Governor's representative, of each of the five states have signed letters of assurance as an expression of their intent to cooperate and cost-share with the federal government. The states view this program as a cooperative venture and, in that spirit of partnership, seek a federal financial commitment.

The UMRS Environmental Management Program has been laid out as a 10 year effort requiring an evaluation report to Congress at the end of that time period. To realize the benefits of the program and carry out the Congressional commitment to balanced management, sufficient funds must be made available in the early years. The program should not be handicapped from the outset if measurable progress is to be demonstrated in future years.

In conclusion, the Upper Mississippi River Basin Association supports the inclusion of funds in the FY 1987 Appropriations bill for the UMRS Environmental Management Program. This action would signal the clear commitment of Congress to balanced multi-purpose management of the Upper Mississippi River System.

STATEMENT OF THE AMERICAN FORESTRY ASSOCIATION

The American Forestry Association, the national citizen's organization for trees, forests and forestry, is distressed by the proposed elimination of the natural resource programs of the Tennessee Valley Authority. We thank you for the opportunity to submit a statement in support of the innovative and cooperative research, management, and educational efforts of the TVA.

The TVA has a distinguished history of service to the people and the resources of the Valley, much of which has been due to the effective natural resource, economic and agricultural development programs of the agency. These programs often lead to the development of technologies, natural resource management techniques, and recreational and educational opportunities which benefit the entire country. To suggest -- as the President's Budget Proposals do -- that such programs are beyond their usefulness, or that there is no longer any need for them in the Valley, is shortsighted. Many of the resource and economic challenges with which the TVA has wrestled are now facing other regions of the country; TVA's cooperative, yet non-duplicative, interactive relationship with other federal and state agencies continues to be a useful model for the nation.

The TVA Act gave the agency broad responsibilities and fostered an integrated approach to resource management. We would like to highlight examples of TVA's contributions to the environment and natural resources of the region, and the nation as well. For convenience, we will group these efforts and accomplishments into the following general resource categories: forestry and agriculture; water; wildlife; air quality research; and environmental education, although specific programs obviously benefit many if not all of these broad areas.

In addition, we would like to address the importance of Land Between the Lakes, the national recreation and environmental education center which benefits over two million visitors annually, and which in many ways exemplifies the broad accomplishments of the agency.

Forestry and Agriculture. The science and practice of forestry has benefitted greatly, as has the region's economy, from TVA's reforestation and forest management research and leadership. Millions of trees were planted because of TVA education and outreach to private landowners. Those trees are now a major factor in the economy of the Valley. And TVA reforestation efforts benefit the federal government as well — in an emergency effort requested by the USDA-Forest Service, TVA recently aerially seeded and fertilized 471 acreas of the Pisgah National Forest, after the Forest Service had been unable to locate experienced contractors who could respond promptly.

Today, the country faces the challenge of too many acres of marginal acres in crops; a national problem of such scope that the conservation provisions of the 1985 Farm Bill alone will not be able to completely manage it. Currently, TVA, USDA, State, universities, and other organizations conduct cooperative soil and water conservation programs in the region. TVA's continued leadership, outreach and program support in conservation is needed in the coming years to help address this crucial resource problem.

Water. TVA's effort to provide a surface water quality monitoring and trends assessment — to help TVA manage its reservoirs — provides information for State discharge permits, and acts as an early warning system for emerging water quality problems. TVA cooperates with States, and federal agencies such as the the Soil Conservation Service, and the Environmental Protection Agency to address non-point source pollution and toxic water contamination from surface mining, agriculture, livestock operations and other sources.

In 1985, for example, TVA completed a major national demonstration, the First Tennessee Development District groundwater project, which provided local officials with information needed to protect healthy water supplies in an eight-county area dependent on wells and springs. In addition, TVA prepared a detailed report on the project — including educational materials for use in similar groundwater protection efforts elsewhere.

Air Quality Research. TVA is taking significant steps to develop and implement pollution control technologies for its power plants, concepts which are appropriate for other power generators as well. TVA is also conducting important studies on the effects of air quality -- specifically acid precipitation -- on soils, forests, fisheries, and water quality. In the Southern Blue Ridge Province, TVA is participating in an examination of spruce/fir forests for clues about the extent and severity of productivity declines -- declines which some scientists link to air pollution or "acid rain." If allowed to do so, TVA will no doubt continue to be an important cooperator in the effort to understand both the cause of acid precipitation, and its impacts on forest and aquatic resources.

Environmental Education. In addition to the educational activities that it operates on its own lands, TVA has established a network of 10 functioning cooperative centers at Valley universities that provide teacher training, educational programs, research, and environmental study areas. This model for environmental education is now spreading to universities outside the Valley, and States as far away as North Dakota and Montana have worked to establish similar programs.

The Land Between The Lakes. Land Between The Lakes provides a national demonstration in integrated natural resource management, providing wildlife, recreation, and education benefits. It receives visits from over two million people a year who come to hunt, fish, camp, observe wildlife, or just to "get away". These visitors leave with a renewed understanding and appreciation of their natural environment.

Land Between The Lakes is a fitting symbol of the multipurpose, imaginative approach which is characteristic of the agency today. AFA Past President, Dr. Carl Reidel, Director of the University of Vermont's Environmental Program, has observed that, "On the whole, timber harvesting at LBL is superior to that being done on other public or private lands in the region -- an excellent demonstration of environmentally sensitive logging on a multiple-use area."

The history of TVA is a proud one, and its work and future contributions are far from complete. Per capita income of this region still lags behind the national average, and national investments, in the development and improved utilization of the region's resources, through a proven performer like TVA, are an important key to helping the region close the gap. Furthermore, TVA provides information and models of cooperation which can help combat resource problems at the national level.

We thank you for the opportunity to share these views with you. We hope, as this Committee assists in the development of the 1987 budget, you will continue to take the value of this organization, both to the region and to the Nation, into consideration.

STATEMENT OF THE INTERNATIONAL ASSOCIATION OF FISH AND WILDLIFE AGENCIES

The International Association of Fish and Wildlife Agencies (IAFWA) is a quasi-governmental organization of public agencies which possesses legal authority for protection and management of North America's fish and wildlife and their habitats. Founded in 1902, the Association's government members include the fish and wildlife agencies of all 50 states and most Canadian provinces, as well as the federal fish and wildlife agencies of the United States, Canada and Mexico. The Association has been a key instrumentality in promoting principles of sound resource management and in strengthening federal, state and private cooperation in protecting and managing fish and wildlife in the public interest.

The Tennessee Valley Authority (TVA) is a regional agency that completes work and demonstrations for the natural resource community on a national and international scale. In addition, much of the work done by the TVA is not done by other state or federal agencies. The budget reduction proposed by the Administration for FY 1987, a 52 percent reduction, is the largest for a federal natural resource agency. This reduction, if carried through, will create a void in vital resource programs such as pioneering work in water quality, downstream flows, acid deposition and reservoir management. In addition, TVA's impressive wildlife and forest management programs will come to a standstill. The International Association recommends the following budget restorations so that these important programs may continue.

That the Land and Forest Resources program be funded at a level of $4.3 million. This proposed cut of $3.7 million for this program would eliminate TVA's forestry, enviromental education and wildlife programs, including the successful eagle and osprey reintroduction program. TVA has effectively combined all these programs as not only a productive program for the agency but also as a model for other federal and state agencies. It has also been reviewed on site by dozens of foreign natural resource agencies from such countries as mainland China to those of Latin America and the Mideast.

That the Land Between the Lakes Program be funded at a level of $6.9 million. The budget proposes to eliminate this program. This is a premier 170,000 acre recreation area that attracts almost 2 million visitors annually for such experiences as camping, hunting, fishing, wildlife observation, horse back riding, hiking, boating and environmental education. Wildlife habitat objectives are accomplished through model forest management program. The Land Between the Lakes truely embodies the term multiple-use.

That the Water Resources Program be funded at a level of $8.0 million. This program is proposed for a $4.5 million reduction. An important aspect of this program is the reaeration and minimum flows in tailwaters of TVA's reservoir facilties. Over the past 5 years TVA has developed methods to bring the oxygen level to acceptable standards for fisheries in waters released from several of its reservoirs. This has been extremely beneficial to fisheries production, waster quality and the ability of the waters to assimilate wastes. This valuable effort will be greatly reduced under the proposed reduction.

All fisheries improvement efforts will be stopped under the proposed budget reduction. Some examples of the work in this area are: enhancement of reservoir fisheries habitat to increase both commercial and sport fishing harvests; efforts to improve the striped bass fishery and to restore traditional white bass runs in tributaries to TVA's reservoirs; and the effort to replace the trout fishery destroyed by the construction of the Tellico Reservoir.

The Water Resources program also makes important contributions in the arena of nonpoint source pollution from agriculture and surface mining. This is carried out as cooperative demonstrations between TVA, the states of Tennessee, Kentucky, Mississippi and the Soil Conservation Service. The proposed budget reductions would eliminate these demonstrations. Another significant and successful effort under the Water Resources program area is the toxic contamination clean-up between TVA, the Environmental Protection Agency (EPA), and the states of Virginia, Tennessee and Alabama. This program, at best, will be delayed. The cooperative effort to reclaim abandoned surface mines in North Carolina, Tennessee and Georgia is also under the Water Resources

That the Resource Management and Development Program be funded at at level of $4.8 million. The proposed budget reduction eliminates TVA's acid deposition research efforts in cooperation with National Acid Precipitation Assessment Program, the EPA and regional states. Scientists for TVA have pioneered research in atmospheric reactions that create acid deposition. This valuable work continues to add to our knowledge about the effects on fish and wildlife and their habitats. Also halted would be TVA's low cost technology waste-water treatment demonstrations for small communities. This program assists clean water programs throughout the nation.

STATEMENT OF THE NATIONAL RURAL ELECTRIC COOPERATIVE ASSOCIATION

The National Rural Electric Cooperative Association (NRECA) at their recent Annual Meeting adopted the following resolution supporting the Tennessee Valley Authority's Resource Development Programs.

Support for TVA Resource Development Programs

The U.S. Office of Management and Budget has recommended to President Reagan that funds for TVA's resource development programs be reduced by fifty percent (50%) from the 1986 funding level of $113.5 million to less than $58 million.

The fifty percent (50%) budget cut proposed by OMB would, in essence, destroy the institution of TVA as it is mandated in the TVA Act and as it has functioned for more than a half century in demonstrating, encouraging and fostering improved approaches to community, economic, agricultural and natural resources development.

We are greatly concerned that the proposed cuts would seriously impair TVA's ability to transfer its knowledge of successful community and economic development approaches to our member organizations in the Valley and across the Nation as well as its ability to serve as a full partner in our national rural jobs creation campaign.

We support continued funding for TVA's resource development programs at a level at least equal the agency's fiscal year 1986 funding level of $113.5 million.

You are well aware of the economic conditions in rural America. NRECA is in full support of programs that will provide jobs so families can continue to live where they prefer.

Your continued support of economic development in rural America will be appreciated.

STATEMENT OF THE ASSOCIATION OF TENNESSEE VALLEY COUNTIES

MR. CHAIRMAN, THIS ASSOCIATION APPRECIATES THE OPPORTUNITY TO SUBMIT THIS STATEMENT TO YOUR SUBCOMMITTEE SO THE MEMBERSHIP MAY KNOW OF OUR DEEP CONCERN REGARDING THE ADMINISTRATION'S PROPOSAL TO AGAIN REDUCE TVA'S APPROPRIATED FUNDS. LAST YEAR, YOUR SUBCOMMITTEE HEARD TESTIMONY FROM SEVERAL GROUPS, INCLUDING THIS ASSOCIATION, EXPRESSING UNIFIED SUPPORT FOR TVA AND THE OUTSTANDING JOB THAT IT IS DOING WITH THE APPROPRIATED FUNDS THAT THE CONGRESS MAKES AVAILABLE FOR A VARIETY OF DEMONSTRATION PROGRAMS AND TECHNICAL SERVICES WHICH BENEFIT PEOPLE ALL ACROSS THE UNITED STATES, NOT JUST THOSE IN THE TVA REGION.

MR. CHAIRMAN, YOU WERE VERY HELPFUL AND SUPPORTIVE OF OUR REQUEST LAST YEAR WHEN OMB PROPOSED TO REDUCE CONGRESSIONAL APPROPRIATIONS FOR TVA BY SOME $90 MILLION DOLLARS. THANKS TO THIS SUBCOMMITTEE AND OTHER MEMBERS OF CONGRESS, TVA'S FUNDS WERE RESTORED TO A LEVEL THAT PERMITTED MOST OF THE PROGRAMS AND ACTIVITIES TO BE CONTINUED.

THE OFFICE OF MANAGEMENT AND BUDGET IS NOW PROPOSING TO REDUCE TVA'S FISCAL YEAR 1987 APPROPRIATION BY APPROXIMATELY 50 PERCENT, FROM THE FISCAL YEAR 1986 LEVEL OF $113 MILLION TO $58 MILLION (EXCLUDING OVER $4 MILLION DECREASE DUE TO THE GRAMM-RUDMAN-HOLLINS ACT). A REDUCTION OF THIS MAGNITUDE WILL DESTROY VITAL RESOURCE AND ECONOMIC DEVELOPMENT PROGRAMS BENEFITTING OUR NATION.

IT IS THE UNDERSTANDING OF THIS ASSOCIATION THAT OMB'S PROPOSAL WOULD TERMINATE FUNDING FOR THE LAND BETWEEN THE LAKES. THE LAND BETWEEN THE LAKES IS A 170,000-ACRE NATIONAL RECREATIONAL AND ENVIRONMENTAL EDUCATION CENTER THAT WAS CREATED TO SERVE THE PEOPLE OF THE UNITED STATES, EITHER DIRECTLY FOR THOSE WHO VISIT OR INDIRECTLY THROUGH EDUCATIONAL PROGRAMS IN OUTDOOR RECREATION, LAND, OTHER NATURAL RESOURCE MANAGEMENT AND ENVIRONMENTAL EDUCATION ENDEAVORS. WHEN THE LAND BETWEEN THE LAKES WAS

ASSEMBLED BY TVA (THE FEDERAL GOVERNMENT) ACQUIRING SMALL FARMS AND HOMESTEADS IN THE 1960'S, IT WAS THE PROMISE THAT IT WOULD ALWAYS BE MAINTAINED AND OPERATED AS RESOURCE AND SERVICE TO THE PEOPLE OF THE UNITED STATES. TO DISCONTINUE FUNDING FOR THE LAND BETWEEN THE LAKES MAY BE TRANSLATED INTO AN UNFULFILLED PROMISE TO THE PEOPLE.

IT IS BEING PROPOSED BY OMB THAT TVA'S ECONOMIC DEVELOPMENT SERVICES BE ELIMINATED BY CUTTING-OFF THE APPROPRIATED FUNDS. THE TVA REGION HAS CERTAINLY MADE ECONOMIC GAINS DURING THE PAST FIVE DECADES, MUCH OF WHICH IS ATTRIBUTABLE TO EXPERTISE AND TECHNICAL ASSISTANCE FURNISHED BY TVA FROM CONGRESSIONAL APPROPRIATIONS; HOWEVER, IT SHOULD BE EMPHASIZED THAT THE VALLEY AREA STILL LAGS BEHIND THE REST OF THE NATION IN FAMILY OR HOUSEHOLD INCOME. TVA'S ECONOMIC DEVELOPMENT SERVICES PROGRAM IS DIRECTED TOWARD INCREASING ECONOMIC DEVELOPMENT OPPORTUNITIES, PARTICULARLY FOR RURAL AREAS. ONE OUT OF EVERY TWO NEW JOBS CREATED IN THE PAST 15 YEARS IN THE TVA REGION RESULTED FROM EXISTING INDUSTRIES. LAST YEAR, TVA'S EXISTING INDUSTRIES PROGRAM, FUNDED BY CONGRESS, ASSISTED 244 FIRMS TO EXPAND ENOUGH TO CREATE SOME 9,300 NEW JOBS.

TERMINATING TVA'S ECONOMIC DEVELOPMENT PROGRAM FUNDING WOULD RESULT IN A NEGATIVE IMPACT FOR EMPLOYMENT OPPORTUNITIES WITHIN THE TENNESSEE VALLEY REGION, WHICH TRANSLATES INTO REDUCED TAX REVENUE AT THE LOCAL, STATE, AND NATIONAL LEVEL. IT IS DIFFICULT TO QUANTITFY, BUT IT IS THE OPINION OF THIS ASSOCIATION THAT LOCAL, STATE, AND FEDERAL INCOME TAXES GENERATED BY CONGRESSIONALLY-FUNDED TVA ECONOMIC DEVELOPMENT ACTIVITIES PRODUCE MORE GOVERNMENT REVENUE THAN EXPENDED BY CONGRESS ON THE TVA PROGRAMS. WHEN OMB PROPOSES TO TERMINATE TVA OR TVA PROGRAMS, IT IS WITHOUT UNDERSTANDING OR RECOGNITION OF TVA'S HISTORY OR ITS CURRENT ROLE IN SERVICE TO THE PEOPLE OF THE UNITED STATES.

THE OMB PROPOSAL TO ELIMINATE FUNDS FOR TVA AGRICULTURAL RESOURCE DEVELOPMENT, SOIL CONSERVATION/EROSION CONTROL, AND WATER QUALITY IMPROVEMENT PROGRAMS WILL BE TO THE DISADVANTAGE OF PRESENT AND FUTURE GENERATIONS, THE RESULT BEING MERELY A TRANSFER OF EXISTING PROBLEMS. ECONOMICALLY DEPRIVED FARMERS WILL CONTINUE TO NEED TVA'S TECHNICAL ADVISE IN MAKING THE TRANSITION FROM ROW CROPS TO VEGETABLES, FROM TOBACCO TO TRUCK GARDENS, AQUACULTURE, ETC.

WITH CONGRESSIONAL FUNDING, TVA OPERATES THE NATIONAL FERTILIZER DEVELOPMENT CENTER (NFDC). AS THE TITLE INDICATES, THIS IS A NATIONAL CENTER, WITH INTERNATIONAL ACCLAIM. WHEN THIS CENTER WAS STARTED A SOME 50 YEARS AGO, THE WORLD POPULATION WAS 2.1 BILLION, IN 1984, THE WORLD POPULATION REACHED 4.7 BILLION, AND IT IS EXPECTED TO EXCEED SEVEN BILLION BY THE YEAR 2000. THE NFDC COULD BECOME A MAJOR COMPONENT IN INTERNATIONAL EFFORTS TO MEET FUTURE DEMAND FOR FOOD AND FIBER. IT WOULD APPEAR SHORT-SIGHTED TO REDUCE THE FUNDING FOR THIS IMPORTANT RESEARCH AND DEVELOPMENT PROGRAM.

THE PROPOSED CUTS IN TVA'S APPROPRIATED BUDGET WILL RESULT IN THE TERMINATION OF EMPLOYMENT FOR SOME 700 TVA EMPLOYEES AND CERTAINLY WILL CAUSE PROBLEMS FOR THOSE WORKERS AND THEIR FAMILIES. IN ADDITION, THE TECHNICAL EXPERTISE WOULD NO LONGER BE AVAILABLE TO THE BUSINESSES, INDUSTRIES AND FARMERS TO DEMONSTRATE NEW TECHNOLOGY AND MANAGEMENT PRACTICES THAT EVOLVE INTO NEW JOBS, EXPANDED TAX BASE AND AN OVERALL BETTER WAY OF LIFE. FIRING HIGHLY SKILLED TECHNICIANS WILL ONLY ADD TO THE PROBLEMS OF THE TVA REGION AND CURTAIL OPPORTUNITIES FOR THE PEOPLE TO IMPROVE THEIR SKILLS.

THIS ASSOCIATION SHARES YOUR CONCERN WITH THE BUDGET BALANCING EFFORTS. AS LOCAL ELECTED OFFICIALS, WE KNOW SOMETHING OF, AND APPRECIATE, THE TOUGH DECISIONS FACING YOU IN THE BUDGET MAKING PROCESS. WE BELIEVE THE REVENUE

PAID TO THE FEDERAL GOVERNMENT BECAUSE OF TVA WOULD MORE THAN OFF-SET THE APPROPRIATED EXPENDITURES THAT TVA NEEDS TO CARRY OUT ITS WORK OF SOLVING REGIONAL PROBLEMS THAT HAVE NATIONAL SIGNIFICANCE.

MR. CHAIRMAN, YOUR HELP IS RESPECTFULLY REQUESTED TO RESTORE APPROPRIATIONS FOR TVA SO THAT ITS MISSION CAN BE CONTINUED NEAR ITS PRESENT LEVEL OF FUNDING.

STATEMENT OF THE NAVAJO NATION

INTRODUCTION

Mr. Chairman and members of the Committee, I appreciate this opportunity to present testimony on behalf of the Navajo Nation to request funding of a reservation-wide survey of flood control and related purposes.

SUMMARY OF THE REQUEST

The President of the United States has never requested funding under existing authority to address flooding problems on the Navajo Indian reservation. In 1976, the Congress enacted the Water Resources Development Act, and Section 176 of the Act directed the Army Corps of Engineers to conduct a survey of flood control and allied purposes on our reservation. Until such time as Congress appropriates funds to conduct required studies, the Corps will be unable to fulfill this directive.

The Navajo Reservation experiences severe flooding problems during the Summer rainy season and during the Spring snowmelt. Erosion caused by the flooding is endangering a national historic site, creating great hardships for the Navajo people who must cross numerous washes throughout the reservation to reach their homes, to attend schools, and to reach hospitals. Our highways, roads, and bridges are being eroded. These serious problems are not being addressed, due in part, to the lack of baseline data to allow the work to be done.

We respectfully request that funds be appropriated beginning in Fiscal Year 1987 for a general flood control reconnaissance study in the amount of $470,000. This study would take 12-18 months to complete. The Navajo Nation has committed to cost share 50% of the estimated cost of Phase II, feasibility studies, which would detail water resource opportunities on our reservation and allow us to recommend feasible projects for possible construction in the future. Phase II is estimated to cost $1,500,000.

Completion of these studies would provide the basis for beginning to protect and enhance existing environmental and cultural resources. Recreational and agricultural facilities at strategic locations on our reservation would be identified. Many of these activities might generate employment for the local people. If carefully planned, water resource management would be coupled with range management and soil conservation measures and stop the run-away erosion now plaguing our lands.

NAVAJO NATION CHARACTERISTICS

The Navajo Nation is the largest Indian reservation in the United States comprising about 16 million acres that stretches across Arizona, Utah and New Mexico, with the largest portion being in Arizona. Because our reservation is situated in three states, we historically have experienced the need for extensive coordination with myriad Congressional districts, county districts, and Federal districts/agencies. For instance, at the Congressional level we are required to coordinate with Arizona's third and fourth districts, Utah's third district and New Mexico's third district. The Federal level requires contact with the Corps' Amarillo district office for the New Mexico portion, while portions of Arizona is split between the Los Angeles and Sacramento district offices, and Utah lies within the Sacramento district office. At the local level six counties occupy large segments of Navajoland as follows: Coconino, Apache, and Navajo counties in Arizona; McKinley and San Juan counties in New Mexico; and San Juan County in Utah.

As you might imagine, this can be quite confusing in the context of addressing and financing flood control and water resource problems. This multi-jurisdictional situation resulted in little or no assessment of flood inundation, water supply, and bank erosion in the Navajo Nation.

These problems have built up over the years and escalated to a point of complex flooding problems and large scale run-off. To date, the cumulative damages and chain of serious degredation to the land and lives is not unlike recent torrential flooding in California reportedly causing the Corps to exceed Fiscal Year 1986 appropriations by an estimated $5 million. Our review of preliminary information of our five major drainage areas indicates six (6) large earthen dams are no longer capable of fully controlling a 50-100 year storm event, and we are quite concerned.

We must also note that the increasing population of the Navajo Tribe continues to be a factor in projecting our future needs and use of the land. Approximately 160,000 Navajo people live on the reservation. The annual rate of population growth is estimated at 2%. We anticipate a considerable amount of population growth in communities such as Shiprock, Chinle, Tuba City, Kayenta, Window Rock and Crownpoint, all of which are located within the five drainage areas.

If funded, we recommend that one of the Corps district offices be designated as the lead office for servicing of the entire reservation which we previously indicated includes the Corps' Los Angeles, Sacramento, and Amarillo district offices.

GENERAL INVESTIGATION STUDY

On February 26, 1986, the Corps' South Pacific Division requested a budget in the amount of $10.9 million for the general investigations program for the current year. One of these studies would cost $5.8 million. We ask only a fraction of such amounts for a reconnaissance study in the amount of $470,000 which would permit us to vigorously pursue our reconnaissance study.

Some members of Congress, the President, and the Secretary of the Army are fully aware of severe flooding problems on the Navajo Indian reservation resulting in: stream bank erosion, threatened earthen dams, degredation of commercial sites caused by unsuccessful embankment practices; endangering highways, roads, bridges, schools and archaeological sites. In addition, annual flooding causes hardships on local residents in flood plain areas often making rural roads impassable. In some cases during peak flooding periods, lives have been lost to flash floods and bridge washouts.

Congress is very cognizant of the situation as evidenced by the passage of "The Water Resources Development Act" on October 22, 1976 (Public Law 94-587). In Section 176 of the Act, the Corps was authorized to conduct flood control investigations on the Navajo Indian reservation. The passage of this legislation has obviously not compelled the Corps or the President of the United States to request the necessary financial assistance under the provisions of the Act. Now, ten years later, we remain without the comprehensive mapping of our drainage areas needed to begin establishing our priorities and water resources conservation/preservation measures.

We recognize that the Corps has tried to stretch limited resources since 1984 in dealing with various uncontrolled flood and allied problems in the Navajo Nation. At best, this has been a piecemeal approach due to budgetary and other resource constraints. The band-aid type of work and preliminary studies completed include identification of six (6) outdated dams located on the reservation: Ganado, Tsaile, Many Farms, Round Rock, Wheatfields, and Red Lake. Apparently, the Corps has done some minor stream channelization studies in the Chinle Wash Area. Within a month, the Phoenix office expects to release a preliminary flood inundation reduction report for a multi-purpose dam and channelization in the Ganado Wash Area. Along the Little Colorado River area, extensive damage to roads and bridges around the Birdspring-Leupp community has been identified. A Section 14 review is in progress in Nazilini, Arizona. Finally, the Corps has assisted in identifying five (5) major drainage areas for further study: three in Arizona (Chinle Wash, Pueblo Colorado, and Little Colorado River) and two in New Mexico (Rio Puerco, and the Eastern Portion of the Chuska Mountains).

While these brief reviews have been completed or initiated, much work lies ahead. Lack of necessary appropriations have precluded an in-depth survey for flood control and allied purposes on our reservation. We have discussed the problems for ten years, it is now time to take action to finance the urgently needed reconnaissance study which would optimistically result in construction and/or upgrading of dams, channels and related improvements by 1996. This was succintly explained to us by Corps officials on October 12, 1984.

> "If funds are appropriated for this study, the Corps would initiate a reconnaissance study at 100 per cent Federal cost to define the water resource problems and identify potential solutions... The reconnaissance study would determine whether or not planning should proceed further into a feasibility phase. The objective of the feasibility phase is to study in more detail the water resource [construction appropriation] by Congress."

We have been referred to Congress by the Corps and therefore request financial assistance under existing authority of the 1976 Act, Section 176 as summarized below. We note that we are prepared to cost share Phase II at a 50 per centum level:

Budget Request to Congress - A Summary

	Current FY 1987	Out Years 1988-1990	1996
PHASE I (Reconnaissance Studies) 12-18 months; 100% Federal fund; justified projects established; report & recommend for Phase II.	$470,000		
PHASE II (Feasibility Studies) 50/50 cost share by the Navajo Tribe and the Federal Government; justified projects identified; report and request for construction funds submitted to Congress.		$1,500,000	
PHASE III (Construction) Capitalization estimates are established in the feasibility report.			Unknown

BENEFIT COST RATIO ANALYSIS

In the absence of specific Corps policy on benefit cost analyses on Indian reservation lands, we respectfully request the Congress to revise benefit cost ratio computations.

In the February 27, 1985, deliberation of this Committee, the following question was discussed by members: "Will Indian flood control projects be subject to the same...cost benefit ratio analysis as non-Indian projects?" At that time, the significance of this important question was revealed. That is, the usual benefit cost analysis employed by the Corps was apparently intended for robust economic regions of the United States which include densely developed counties such as Los Angeles County, California; along navigable rivers, waterways, and ports such as those of the Mississippi; and involving thousands of properties such as in Marin County, California, containing about 3,000 properties valued at an estimated $250 million.

Such areas are not comparable to the Navajo Indian reservation, an economically depressed area with high unemployment and reduced growth. This contrast requires a new look at the benefit cost computations for flood control and related projects on Indian lands.

CONCLUSION

Mr. Chairman, this concludes our testimony. We thank you and the members of the Committee for this opportunity to express our views.

STATEMENT OF DAVID HENDERSON, NEW MEXICO STATE REPRESENTATIVE, NATIONAL AUDUBON SOCIETY

On behalf of the National Audubon Society, one of the oldest and largest conservation organizations, with a membership of 500,000, and more specifically, speaking for the 4,000 members in the state of New Mexico, I would like to address this subcommittee concerning funding for the Upper Gila River Water Supply Project, a Bureau of Reclamation project in southwestern New Mexico. In these times of grave concern over the growing Federal deficit and the necessity of Congress to find ways to reduce that deficit and in light of the Gramm-Rudman-Hollings Bill it becomes incumbent upon all of us to find ways to cut spending. The Upper Gila River Water Supply Project or the Conner/Hooker Dam is one project that should not be funded as it is economically unsound, environmentally disastrous and simply not needed.

The Upper Gila Water Supply Project is the New Mexico unit of the Central Arizona Project (CAP). It was included as part of CAP at the time of its authorization in 1968 (Public Law 90-537). Since 1980 the planning for this portion of the CAP has moved ahead with most of the focus on the Bureau of Reclamations recommendation to build one of two proposed dams on the Gila River, either Connor or Hooker Dam. The primary purpose of the project is to supply New Mexico with its allotted 18,000 acre feet (AF) of CAP water as part of a trade agreement with downstream users. As planning goes on it is becoming increasingly clear that the Upper Gila River Water Supply Project is not, for southwestern New Mexico, the panacea it was intended to be back in 1968.

The first area of concern, and when considering appropriations probably the most important area, is economic. The economics of this project must be considered from two fronts, the cost of the Bureau of Reclamation project, the dam, and the cost of the water to the future user, primarily Silver City residents. The Connor/Hooker Dam proposal has been estimated to cost 100+ million dollars, with approximately $32+ million being paid by New Mexico users and the balance by downstream users in Arizona. The U.S. taxpayers would pay for the initial cost of construction and upon completion the treasury would be repaid by the water users. The water users would be subsidized by the treasury by a generous low interest loan of 3.342%.

What do the Silver City area water users stand to gain from this project? - Expensive unneeded water. Not only would the water users have to repay the $30+ million for the cost of constuction of the dam but on top of that they would have to pay for the delivery system. The delivery system would have to be about 20 - 25 miles long and would have to be capable of pumping water over the continental divide. Energy cost alone for this could reach the millions but that has not been determined since the delivery system segment is not part of the Bureau of Reclamations project.

Project delivery costs are but one way to look at the economics of western water. Another is the cost of water per acre foot. The New Mexico State Engineers Office has developed a number of scenarios in order to help consumers and themselves more clearly understand the cost of this project in terms of water per acre foot. One of these scenarios has all 10,000 AF of available water purchased by Silver City area residents. Based upon these conditions the cost per acre foot would be $902. Other possibilities show the cost going as high as $7,000/AF. It is safe to assume that costs will fall somewhere between these figures leaving Silver City with the most expensive water in the state. Even by western standards that is extremely expensive water. These high water costs are only compounded by the fact that the Silver City area is experiencing several economic hardships that will not be remedied by expensive water and a 50 year debt.

The second area of concern is that of need for Gila River water in Silver City. In 1984 the 15,000 residents of Silver City used 2,200 acre feet of water or 130 gallons per person per day. The city's water rights at that time were for 3,000 acre feet from the Mimbres and Gila Basins. The recent acquisition of the Gabby Hayes well by the city has added another 1433 acre feet to the city's water potential. It is obvious that the city cannot currently use the water it has and with the copper industry weakening in the area the potential for a large population influx necessary to stress the water limits is unlikely. But perhaps the most striking blow to the need for expensive Gila River water is the very strong likelihood of a large pool of water in the Mimbres Basin lying below the currently tapped aquifer. This untapped aquifer could supply Silver City with water at a fraction of the cost. As you can see, the question of need is a real one.

The third area of concern and perhaps the greatest concern to Audubon members is the environmental risks of the proposed project. To fully understand the environmental risks it is necessary to become familiar with the Gila River region. The river system drains 12,000 square miles of southwestern New Mexico and southeasten Arizona. The Gila is the last unregulated mainstem river flowing free for 200 miles through New Mexico. The headwaters start deep within the first wilderness area ever designated by Congress, the Gila Wilderness. Along its entire free flowing length riparian habitat dominates the riverside. These riparian areas are considered the most important wildlife and vegetative region in New Mexico, if not the entire Southwest. Over 250 species of birds have been documented in the Gila River Valley with up to 116 species of breeding riparian birds reported. This is the highest breeding riparian avifauna community in the Lower Colorado River drainage and probably the Southwest. Because of the importance of the riparian vegetation community to the abundant wildlife resources along the river, the U.S. Forest Service has set aside the Gila River Bird Management Unit. A second Forest Service area is the Gila River Research Natural Area, set aside for special research concerns. The Bureau of Land Management is managing an area in the vicinity of the proposed Connor dam as an Area of Critical Environmental Concern. The Nature Conservancy, a private habitat conservation organization has purchased 126 acres of critical riparian habitat along the river because this riverine habitat represents one of the top five seriously jeopardized vegetation and wildlife assemblages in the United States. The importance of protecting riparian habitat along the Gila becomes even more significant when considering that over 90% of the riparian habitat in the Southwest has already been lost due primarily to human disturbance.

Parallel to the riparian concerns are the aquatic considerations. The Gila is an unregulated mainstem river and because of that it supports one of the most intact native fish communities in existence in the Lower Colorado River Drainage. Two of these native fishes, the spikedace (Meda fulgida) and loach minnow (Tiaroga cobitis), are proposed for Federal listing under the Endangered Species Act. These two species of native fish have to date been eliminated from all but 6% and 15% of their original habitat, respectively.

As a result of the high value, unique characteristics and irreplaceability of the Gila River fish and wildlife habitat, the U.S. Fish and Wildlife Service has classified the river a Resource Category Number One as described in the Fish and Wildlife Service Mitigation Policy. This category designates that because impact to these habitats and resources cannot be mitigated, no loss of existing quality or quantity of habitat should occur. The National Audubon Society supports the Fish and Wildlife Service in this recommendation.

This year perhaps more than in any other year we need to look closely at how to cut the Federal budget. How nice if those savings could not only be reflected in real dollars but also in protection of our truely irreplaceable natural heritage. The National Audubon Society asks this subcommittee to act in the best interest of the American people and not appropriate funds for this project.

STATEMENT OF ALMA L. TURNER, CHAMBERS COUNTY JUDGE, TEXAS

TRINITY RIVER, CHANNEL TO LIBERTY PROJECT

Chambers County requests that the Trinity River, Channel to Liberty (advanced engineering and design) project funding remain included in the fiscal year 1986 budget.

The Trinity River, Channel to Liberty project, is of great importance to Chambers County and should be considered in the top priority group for funding.

The funding of the Trinity River, Channel to Liberty project for advanced engineering and design will result in the future productivity of the river. When completed, the project will be a great benefit for Chambers County.

WALLISVILLE PROJECT

Chambers County requests that the Wallisville (operation and maintenance) project funding remain included in the fiscal year 1986 budget.

The Wallisville project is of great importance to Chambers County and should be considered in the top priority group for funding.

The continued funding of the Wallisville project for operation and maintenance will result in the preserving and continued upkeep of the existing property and facilities.

Proper care and maintenance will protect the condition of the existing property when funds become available for completion under the project plans. When completed, the project will be a great benefit for Chambers County.

STATEMENT OF THE TENNESSEE VALLEY PUBLIC POWER ASSOCIATION

We're writing on behalf of the Tennessee Valley Public Power Association in support of funding the Tennessee Valley Authority's fiscal year 1987 nonpower programs at current appropriation levels.

Members of our association represent the 160 consumer-owned electric utilities which distribute TVA power to nearly 8 million users throughout the Tennessee Valley. No one is more keenly aware or recognizes the ongoing need for TVA's valuable resource development programs than our local community-level electric systems which are owned and operated by the people they serve. While sharing congressional concern about the federal deficit, we strongly oppose any disproportionate cuts in TVA's nonpower budget as compared to reductions for other federal agencies in other regions. It is especially noteworthy, we feel, that TVA's budget has been substantially reduced each year for the last several years. Further reductions will stifle and eliminate vital activities that aid the national and regional economy and protect our environment. Such activities include economic development, water quality control, agricultural land management, pollution control, forestry, flood plain management, ntural resource and fertilizer development, and many other valuable programs so critical to the economic recovery of our important, but still relatively underdeveloped region of America.

I understand your committee will soon hold hearings on TVA's 1987 nonpower appropriations. Although I am not requesting that a representative of our association provide hearing testimony at this time, we would be glad to, at your request, if you feel doing so would be useful.

Again, the association, our member electric systems and their consumers across the Tennessee Valley region strongly support TVA fiscal year 1987 nonpower appropriations at current levels. Further, I would like to request that this statement be placed in the record of the hearings. Thank you for your support and understanding.

STATEMENT OF THE JEFFERSON COUNTY FLOOD CONTROL PROJECT COMMITTEE, TEXAS

Thank you for allowing us the opportunity to make this statement in support of the Taylor's Bayou flood control project. We are a citizens' committee which successfully passed a bond issue election in 1979 for $15 million as the major part of our local share of the project. Please consider the following:

1. Over $39 million in damages to homes, businesses, roads, and crops occurred as a result of two severe floods in 1979.
2. The local share is committed and the bonds are sold.
3. A favorable public hearing on the environmental plan was held in December 1980 and resulted in no major changes in the design.
4. The project has been under construction for the past 3 years and the funds requested this year will substantially complete the first phase and eliminate a serious bottleneck at the outfall.
5. I am for reducing federal expenditures and balancing our budget; however, federal funds always seem to end up in flood disaster areas to help cover losses in the form of flood insurance payments, low interest loans, and grants. The same funds should be spent to prevent the loss, when possible.

This fund request should be considered as an investment in the future of the petrochemical center of our Nation. Further development in our area is hampered by inadequate drainage. I urge your support of this item in the appropriations bill for water development in Texas.

CONCLUSION OF HEARINGS

Chairman HATFIELD. With that, we stand in recess until the call of the Chair.

[Whereupon, at 3 p.m. Wednesday, April 16, the hearings were concluded and the subcommittee was recessed to reconvene at the call of the Chair.]

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